U.S. Army Corps of Engineers - Kansas City District

Cornell-Dubilier Electronics Superfund Site South Plainfield, NJ

Flood Hazard Area Individual Permit Part 4 - Environmental Report for Operable Unit 2 (OU-2)

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Glossary of New Jersey Administrative Code Flood Hazard Area Control Act 7:13 Definitions

Acid Producing Soils means soils that contain geologic deposits of iron sulfide minerals (pyrite or marcasite) which, when exposed to oxygen from the air or from surface waters, oxidize to produce sulfuric acid. Acid producing soils, upon excavation, generally have a pH of 4.0 or lower. After exposure to oxygen, these soils generally have a pH of 3.0 or lower. Information regarding the location of acid producing soils in New Jersey can be obtained from local Soil Conservation District offices.

Bank means the inclined side of a channel, an excavated or impounded area or a topographic depression, which confines and/or conducts water.

Bed means the floor of a channel over which water flows continuously or intermittently. Bed also means the floor of an excavated or impounded area or of a topographic depression that confines and/or conducts water.

Channel means a linear topographic depression that continuously or intermittently confines and/or conducts surface water, not including transient erosional gullies and other ephemeral features that temporarily form after heavy rainfall. A channel can be naturally occurring or can be of human origin through excavation or construction. A channel includes both bed and banks. *For the purpose of this Application, channel refers to the Bound Brook Channel.*

Flood Fringe means the portion of the flood hazard area that is outside the floodway.

Flood Hazard Area means land, and the space above that land, which lies below the flood hazard area design flood elevation. Structures, fill and vegetation that are situated on land that lies below the flood hazard area design flood elevation are described as being "in" or "within" the flood hazard area. The inner portion of the flood hazard area is called the floodway and the outer portion of the flood hazard area is called the flood fringe.

Floodway means land, and the space above that land, which lies within the inner portion of the flood hazard area, and which is mathematically determined to be required to carry and discharge floodwaters resulting from the 100-year flood under certain conditions. The floodway always includes the channel and often includes land adjacent to the channel. The floodway is normally characterized by faster and deeper flows than the flood fringe, which is the portion of the flood hazard area outside the floodway.

Impervious Surface means a surface that is covered with a layer of material so that it is highly resistant to infiltration by water. Examples of an impervious surface include asphalt, brick, buildings, concrete, metal and most structures. In some instances, the NJDEP will also consider densely packed gravel or stone roadways and parking areas to be impervious.

Riparian Zone means the land and vegetation within and adjacent to a regulated water within a certain distance of that regulated water

4. Environmental Report

a) 4a Narrative Describing Proposed Design & Construction Techniques

4.a.1. General Remediation Plan

The USEPA and the USACE are working together to facilitate the timely remediation of OU-2. The remediation of OU-2 includes the following three general components requiring NJDEP review as their location and type of activity fall under the regulatory requirements found in the New Jersey Administrative Code (NJAC) Flood Hazard Area Control Act 7:13 in their anticipated order of occurrence which are described further in the Sections 4c and 4d with respect to analysis of any potential impacts:

- Material excavation and on-site Low Temperature Thermal Desorption (LTTD) treatment
- Backfill, site drainage and paving / restoration; installation of a Stormwater Detention Basin with Surface Sand Filter (Stormwater Basin)
- Removal of accumulated debris & sediments within existing stormwater culverts discharging to Bound Brook

Specific to activities which will occur within the Flood Hazard Area, material excavation and backfill will impact approximately 0.00 acres of Floodway and 0.68 acres of Flood Fringe requiring an estimated 16 cubic yards of net excavation representing no net fill within the Flood Hazard Area. Site drainage, grading and paving/restoration activities will also be performed within these 0.68 acres of Flood Fringe only.

The removal of accumulated debris and sediments from within existing stormwater culverts discharging to Bound Brook will occur within the Floodway for all culverts, and anticipated for certain culverts also located within the Bound Brook Channel. No sediments from within the Bound Brook Channel will be removed or displaced as a result of this activity.

The proposed Stormwater Basin will be installed outside of the NJDEP Flood Hazard Area Limits, but is designed to capture and attenuate stormwater flow from the entire 22-acre site to mitigate potential flood impacts associated with final site drainage and paving activities. The only structure that is designed to be within the NJDEP Flood Hazard Area Limit is an approximate 0.02 acre area for the rip-rap energy dissipater receiving the outlet structure discharge of stormwater.

Approximately 0.55 acres of Riparian Zone will be eliminated from OU-2 as a result of installing a hardscape cover which is part of the remedy established in the September 30,

2004 Record of Decision (ROD) for OU-2. Mitigation for Riparian Zone impacts will be completed during OU-4 remedial activities as described in 4.d.4 of this Environmental Report and as cited in the Final Design Drawings for the OU-2 Soils Remediation (Malcolm Pirnie, June 2008).

4.a.2. Site Excavation and On-Site LTTD

The ROD-prescribed remedy calls for the excavation and removal of all soil and debris that contain Total PCBs at concentrations greater than 500 ppm and/or other contaminants at concentrations that exceed NJDEP Impact to Groundwater Soil Cleanup Criteria (IGWSCC). Soil and debris at shallower depth intervals that meet ROD criteria but need to be removed since they overlie soil and debris that exceed ROD criteria is termed 'clean' overburden material. Material adjacent to soil and debris that exceed ROD criteria that needs to be removed in order to safely perform the excavations is termed 'clean' bench excavation material.

The total volume of material removal (soil and debris, including 'clean' overburden and 'clean' bench excavation materials) cited in the Final Design is approximately 89,700 cy. The volume of soil requiring removal based on exceedences of ROD criteria was calculated as approximately 60,200 cy. The total volume of 'clean' overburden material was calculated as approximately 14,500 cy. The 'clean' bench excavation material was calculated as approximately 25% of the neat in-situ volume, or an approximate additional 15,000 cy.

The anticipated volume of soil and debris expected to be excavated and treated or disposed of can be broken out into five broad categories of material:

- PDI volume of contaminated soil and debris;
- Excavation for removal of existing stormwater piping;
- Excavation for new stormwater system installation;
- Site asphalt stripping; and
- Bedrock removal.

Note that these five broad categories include volumes associated with the Capacitor Disposal Area (CDA), a specially designated area containing contaminated soil and debris at higher concentrations. This CDA was addressed separately by USEPA and USACE in 2008.

Table 4-1 lists the estimated quantities of material to be excavated from the various areas of OU-2, the estimated quantity of material to be treated on-site using LTTD or shipped directly off-site for disposal, and the estimated quantity of backfill material required to achieve proposed grades.

Table 4-1:
Total Material Volume Summary (as adopted from the Final Design Analysis Report, Malcolm Pirnie, June 2008)

TOTAL MATERIAL VOLUME SUMMARY	
EXCAVATION:	
PDI Excavation Estimate	
Neat In-Situ Volume Exceeding ROD Criteria [1]	60,200 CY
Potentially Contaminated Overlying Material Below ROD Criteria [1]	14,500 CY
Potentially Contaminated Benching Material Below ROD Criteria [1]	15,000 CY
Total PDI Soil Excavation Volume	***89,700 CY***
Additional Excavation Beyond PDI Excavation Limits Identified as Part of Design	
Potentially Contaminated New Storm Pipe Excavation Outside PDI Contamination Limits [2]	4,300 CY
Potentially Contaminated Existing Storm Pipe Excavation Outside PDI Contamination Limits [2]	4,700 CY
Existing Asphalt Outside of PDI Excavation Limits (Non Treatable) [3]	6,300 CY
Potentially Contaminated Bedrock Removal Associated With Stormwater Drainage Piping	3,300 CY
Total Additional Excavation Volume	***18,600 CY***
Subtotal Site Excavation Volume	***108,300 CY***
Capacitor Disposal Area Reduction	
Approximate Neat In-Situ Volume Exceeding ROD Criteria [4]	-11,400 CY
Total Reduction From Excavation Due To Capacitor Area	***-11,400 CY***
Total Site Excavation Volume	**96,900 CY**
Less Non Treatable Pavement (See Above)	**6,300 CY**
Less Non Treatable Bedrock (See Above)	**3,300 CY**
Total Excavation Volume For Potential LTTD Treatment	**87,300 CY**
LTTD TREATMENT:	
Volume to Be Treated Through LTTD	
Total Excavation Volume For Potential LTTD Treatment (See Above)	87,300 CY
Less 25% Assumed Debris / Material Disposed Off-Site (0.25 x 86,000) [5]	21,900 CY
Initial Soil Treatment Volume	65,400 CY
Total Initial LTTD Treatment Volume	***65,400 CY***
Treated Volume Available for Backfill	
Initial Treated Soil Volume (See Above)	65,400 CY
5% Volume Reduction Factor (65,400 x 0.05) [6]	3,300 CY
Treated Soil Volume Following LTTD [7]	62,100 CY
BACKFILL:	
Bituminous Pavement	
Volumes Required Over Excavated Areas [8]	**16,400 CY**
Imported Dense Graded Aggregate	
Volume Required to Complete Site Paving [9]	***15,400 CY***
Available Backfill From Treated Materials and Non-Hazardous Excavated Materials	
Treated Soil Volume Balance Following LTTD (See Above) [7]	62,100 CY
Clean Material From Previously Backfilled Former CDA Area [10]	2,300 CY
Total Available General Backfill Volume	***64,400 CY***

Footnotes:

1. Quantity taken from PDI Report by Malcolm Pirnie (August 2007).
2. Excavation for removal and abandonment of existing storm lines and construction of proposed storm lines assumes an average 6-foot deep excavation sloped at 1H to 1V.
3. Existing asphalt outside of PDI contamination limits is assumed to be disposed off-site as debris. A 3-inch thick temporary surface course has been placed as part of demolition restoration activities, and a 6-inch existing thickness has been assumed for all other areas.
4. The volume for the CDA (within the PDI contamination limits) was calculated based on draft record survey and draft waste tracking information provided by the CDA Contractor.
5. The treatable material volume is assumed to be 75% of the total volume considered for potential LTTD treatment, based on observations by Malcolm Pirnie field geologists during the PDI field investigations.
6. 5% reduction factor applied due to potential organic and moisture losses following treatment.
7. This material will be available for reuse as general backfill following treatment.
8. This volume represents the amount of bituminous pavement required for the entire Site less the area for the proposed storm water detention basin.
9. This volume represents the amount of dense graded aggregate required for the entire Site less the area for the proposed storm water detention basin.
10. The approximate volume to be excavated from the previously backfilled former CDA area was estimated using manual calculations. This clean material is expected to be removed in order to bench/slope adjacent excavations and will be reused as backfill on-site following remediation excavation activities.
11. The total volume for the storm water detention basin is the approximate amount of material excavated within basin limits, that will not be re-backfilled following remediation activities.

4.a.2.1. Pavement Stripping

Pavement stripping will be necessary both for excavation of contaminated materials and to allow grading to achieve final grades prior to final site paving. The existing bituminous pavement at OU-2 generally falls in two categories: 1) a 3-inch surface course which was designed to be placed over the footprint of each of the former buildings following demolition as part of the demolition contract, and 2) the pavement over the remainder of the paved areas (western portion of OU-2), which was placed sometime prior to the building demolition which is assumed to have a total thickness of 6 inches. The pavement that lies within the footprint of the excavation is to be removed as the excavation work progresses; the pavement outside of the excavation footprint is to be removed as required for overall site grading, and is to remain in place until grading activities commence.

4.a.2.2. Clearing and Grubbing

Site clearing and grubbing will occur primarily along the southern and eastern sides of OU-2, as required, to permit excavation of contaminated soils and final grading operations. Limits of clearing coincide with the limits of excavation shown on Design Drawing G-05. All trees, brush, and other above-grade vegetation will be cut off at grade and disposed of off-site as C&D waste. Roots, stumps, and below-grade vegetation will be excavated and disposed of with off-site soils or will be processed by the LTTD at the Contractor's option.

4.a.2.3. Stormwater Control and Erosion/Sediment Control

Stormwater control is necessary to prevent the flow of uncontaminated runoff into excavations and to minimize the quantity of water to be treated and disposed. Means and methods for the diversion of stormwater and minimization of potential for erosion will be determined by the Contractor and include at a minimum the details shown on Design Drawings G-13 and G-14, which will be included in the Contractor's Soil Erosion and Sediment Control Plan. In addition, information contained in the Soil Erosion and Sediment Control Plan reviewed and approved by the Freehold Soil Conservation District will also be followed as this Plan meets the definition of a Certified Plan under NJAC 2:90-1.2. Stormwater control will include sequencing work to limit open areas which would produce runoff into excavations, minimizing the size of excavations left open, covering open areas to prevent contact between contaminated materials and precipitation, and may include temporary sumps and pumping. Any stormwater that does enter the excavations will be considered impacted and will require collection and treatment (based on disposal facility requirements) prior to off-site disposal. Conversely, the Contractor is required to minimize potential for contaminated (impacted) water to flow into non-exclusion zones, as stormwater outside of the exclusion zone that is not in contact with contamination may be discharged to Bound Brook following appropriate erosion and sediment control measures. Following excavation, a permanent stormwater control system is to be installed as outlined in Item 3, Engineering Report.

4.a.2.4. Water Treatment and Disposal

All water that comes into contact with contaminated soils and with the LTTD treatment system pad and surrounding areas will be considered impacted and may require treatment (in accordance with disposal facility requirements) prior to disposal. The Contractor is to address and dispose of treated water in accordance with their approved Dewatering Work Plan.

4.a.2.5. Treatment/Disposal via LLTD and Non-LTTD Disposal

Excavated soils with amenable particle size and contaminant concentrations are to be treated on-Site via LTTD. During the LTTD preparation process, excavated soil is placed into pre-treatment stockpiles. Oversized materials (greater than two inches in any dimension) are removed by a sorter, and reduced in size whenever possible by a shredder and chopper. This will effectively homogenize the size of the treated to optimize the LTTD process.

The soil is then fed into the thermal unit, which increases the temperature of the contaminated material to remove the water moisture, VOCs, SVOCs, and PCBs. The removal process desorbs the contaminants from the solid soil particles into a vapor stream rather than combusts the contaminants. The desorbed contaminants and water are entrained in the gaseous phase. The treated soil material which leaves the thermal unit is then to be stockpiled and tested. Soil still exceeding ROD criteria is to be re-treated via LTTD to meet ROD criteria, stockpiled and tested again. Once the soils have been adequately treated, soils are to be used as on-site backfill.

The vapor phase stream exiting the LTTD unit produces three phases of material – entrained particulate materials, primarily clay, an entrained vapor-phase material, primarily water and contaminates, and gaseous phase material, primarily ambient air. This combined entrained vapor-phase process stream is then passed through a set of filters to separate particulate materials. The remaining process stream then is passed through a condenser and scrubbers to convert the vapor-phase water and contaminants to a liquid phase, and permit the discharge of the gaseous phase process stream. The contaminated liquid waste stream produced by the condenser and scrubbers is a highly concentrated organic liquid. The liquid is passed through carbon to absorb the contaminants. The carbon is then containerized, characterized, and transported off-Site for final treatment and disposal. This carbon with sorbed contaminants is expected to be characterized as either a TSCA or TSCA/RCRA waste based on the contamination being removed by the thermal unit. The remaining water is further treated then used on-site to re-hydrate the treated soils. The gaseous phase is discharged into the LTTD thermal unit burners, and discharged as combusted gas.

Excavated soil and debris not amenable to LTTD treatment are to be transported off-site for disposal, with additional treatment as necessary at the disposal facility. The total

anticipated debris volume for OU-2 is approximately 31,500 cy, which includes 25% of the total estimated excavation volume for potential LTTD treatment, plus the existing asphalt outside of the PDI contamination limits and bedrock that will likely be removed as part of the proposed Stormwater Basin and conveyance system, as shown in Table 4-1.

4.a.3. Backfill and Grading

Site excavations will generally be backfilled to proposed subgrades using soils which have undergone successful LTTD treatment. The remaining fill materials will consist of imported general fill to provide the difference between the total volume excavated less debris (which is to be removed from OU-2 and disposed of off-site) and shrinkage which will occur for LTTD treated material, and subgrade material which is dense graded aggregate. See Table 4-1 for a summary of estimated backfill quantities required to achieve proposed grades for OU-2, as determined for the Final Design.

Grading of areas outside of the limits of excavation is to be sequenced by the Contractor. Existing asphalt is to be removed and sent for off-site disposal. Underlying materials may be used to regrade those areas outside the limits of excavation; material from these areas outside of the excavation limits are not to be used to grade areas within the excavation limits. Buried concrete within the areas outside of the excavation limits that is uncovered as part of grading activities may be used as backfill within those areas outside of the excavation limits, as long as it is crushed in accordance with the Final Design.

4.a.3.1. Paving Restoration, Site Drainage, and Stormwater Basin Installation

OU-2 is to be graded as shown on Design Drawing G-11 with the final cap placed to the final grades as shown on Design Drawing G-12. The cap consists of a 6-inch thick bituminous pavement layer composed of a 4-inch thick base course and a 2-inch thick surface course. The subgrade preparation includes removal of the existing OU-2 pavement and regrading of existing subbase material as necessary to provide a smooth transition to the final grades shown.

Site restoration also includes construction of a Stormwater Basin and conveyance system to drain the completed 22 acre cap; the Stormwater Basin will be located within the 22 acre area. As shown on Design Drawing G-12, a series of stormwater catch basins connected by HDPE piping (of varying diameters) will be installed to accomplish this. Three types of catch basins will be installed as part of the system:

- General catch basin
- Angled grate catch basin
- General curb inlet

The series of basins will ultimately drain to a new Stormwater Basin, which is to be constructed in an area that is slated to be predominantly excavated as part of remediation activities (see Design Drawing G-12). The Stormwater Basin will receive flow from a total of five new inlet pipes. Flow will proceed though one of two forebays and then into a sand bed zone The fore bays are separated from the main chamber by baffles which are to promote sedimentation of coarser grained materials. Water flowing into the main chamber is to be discharged through an outlet structure onto an approximate 0.02-acre energy dissipater located within the NJDEP Flood Hazard Area.

For additional details on the design and construction of the permanent stormwater control system, refer to Item 3, Engineering Report.

4.a.4. Removal of Debris

Disposal requirements for debris include the following:

- Accumulated debris & sediments within existing stormwater culverts discharging to Bound Brook will be disposed of off-site
- All trees, brush and other above grade vegetation will be cut off at grade and disposed of off-site
- Roots, stumps and below-grade vegetation will be either excavated and disposed of with off-site soils or processed by the LTTD
- Original and temporary pavement will be disposed of off-site
- Removal of bedrock for installation of the Stormwater Basin and conveyance system will likely be disposed of off-site

b) 4b Figures 4-1 through 4-3 and NJDEP DLUR Freshwater Wetlands General Permit Equivalency

Figures 4-2 and 4-3 are taken from Attachment D, and the NJDEP DLUR Freshwater Wetlands General Permit Equivalency is taken from Attachment H of the Revised Final Habitat Assessment Report, submitted as Appendix C to the Final Design Analysis Report (Malcolm Pirnie, June 2008). The NJDEP DLUR Freshwater Wetlands General Permit Equivalency is located after Section 4.d.4.2 Riparian Zone.

Figure 4-1: Riparian Zone

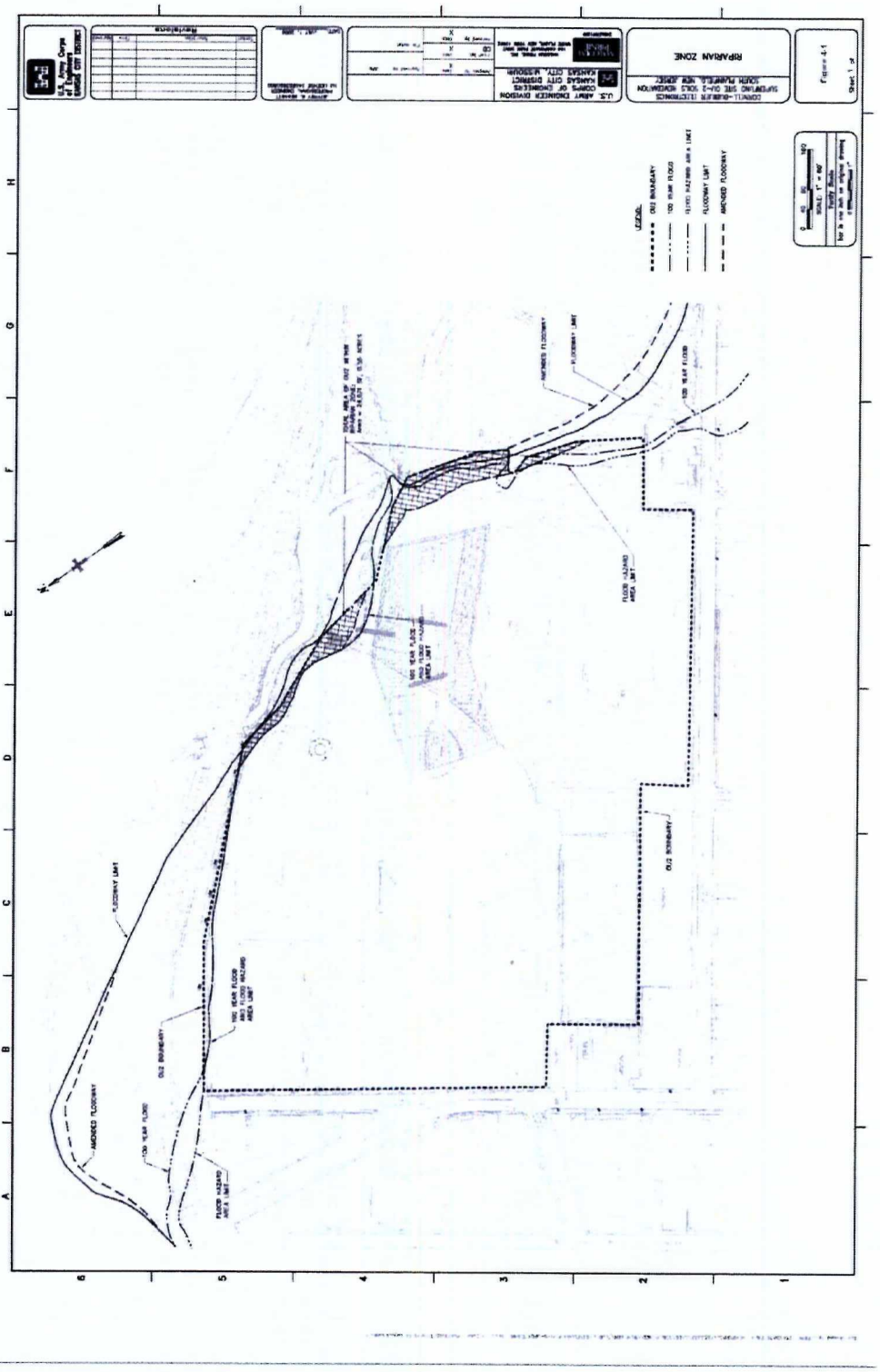


Figure 4-2: Ecological Settings Map

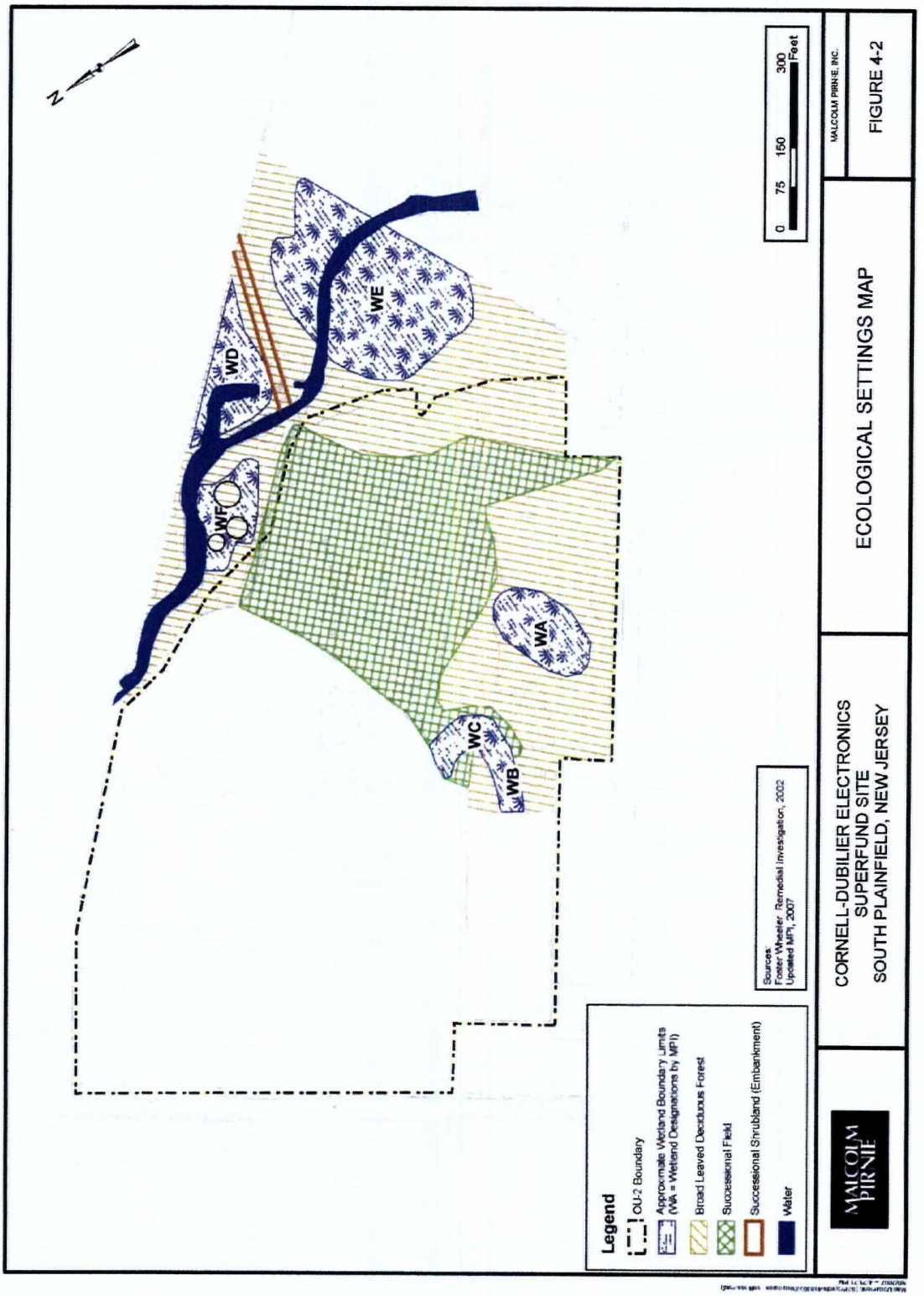
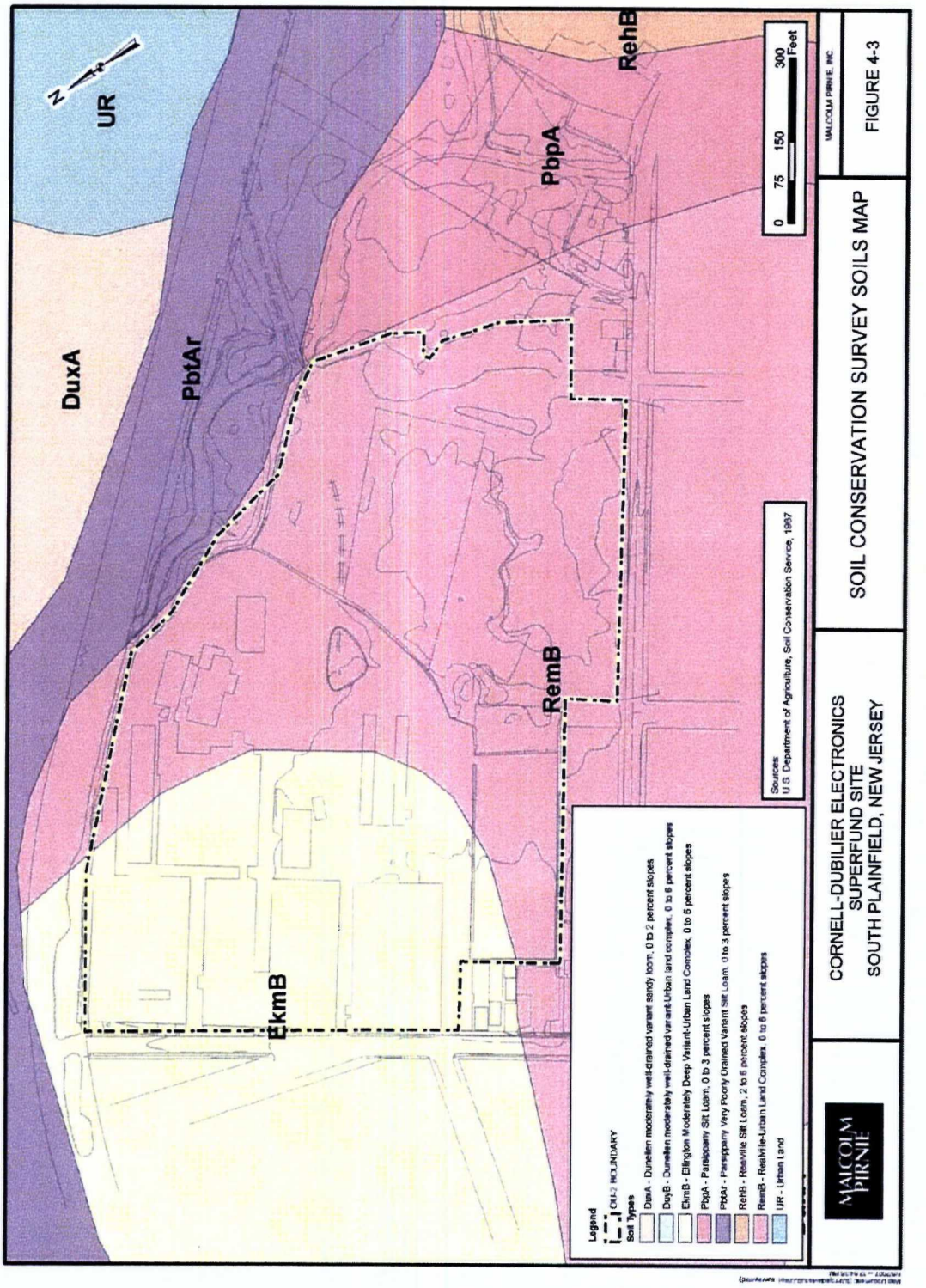


Figure 4-3: Soil Conservation Survey Soils Map



c) 4c Analysis of Potential Adverse Impacts

Section 4c of the Environmental Report includes an analysis of potential adverse impacts to resources identified in NJAC 7:13 with a detailed description of how potential adverse impacts will be minimized and/or avoided. As required under Item's 4c and 4d of the Flood Hazard Area Individual Permit Checklist, resource titles are listed followed by appropriate NJAC regulatory reference to facilitate discussion.

4.c.1. Channel NJAC 7:13-10.1

The only activities proposed within the limits of the Bound Brook channel include removal of accumulated debris and sediments from within existing select stormwater culverts discharging to Bound Brook. No sediments from within the Bound Brook Channel will be removed or displaced as a result of this activity.

As the nature of this work requires laborers and hand held equipment/tools due to the relatively small diameter of culverts, there will be no disturbances to the Channel as access and egress can be accomplished by traversing the Flood Fringe. Since no impact to the existing Channel size and shape will occur as a result accumulated debris and sediment removal,, there will be no negative impacts to the Channel as described under New Jersey Administrative Code (NJAC) 7:13-10.1(b) 1, 2, 3, 4, 5, 6, 7; (c); (d) and (e).

With respect to the requirements stated in 10-1(b) 8 (preservation of aquatic habitat) & 10-1 (b) 9 (enhancement of aquatic habitat), the material excavation component of the remedial action when completed at OU-2 will remove a source of contaminants that are currently impacting this waterway as discussed herein and therefore remove an existing adverse impact to the Bound Brook Channel.

The surface water within the entire length of Bound Brook is classified under NJAC 7:9B-1.15 as FW-2 Non-Trout. The FW-2 classification is defined as "the general surface water classification applied to those waters that are not designated as FW-1 or Pinelands Waters." Designated uses of FW-2 waters according to NJAC are:

- Maintenance, migration and propagation of the natural and established biota
- Primary and secondary contact and recreation
- Industrial and agricultural water supply
- Public potable water supply after conventional filtration treatment (a series of processing including filtration, flocculation, coagulation and sedimentation, resulting in substantial particulate removal but no consistent removal of chemical constituents) and disinfection
- Any other reasonable uses

In addition to this state water classification, the Federal Clean Water Act under Section 303(d) requires states to identify "Impaired Waters" where specific designated uses are not fully supported. The State of New Jersey is required to biennially prepare and submit to USEPA a List of Impaired Waterbodies in accordance with Section 303(d). The integrated list consists of five categories or lists (New Jersey terms them as Sublists) with Sublist 1 being of the highest quality and Sublist 5 being of the lowest quality.

The assessed waterbodies are placed on a Sublist based upon the following criteria:

- The degree of support of designated uses
- How much is known about the waterway's water quality status
- The type of impairment preventing use support

In the New Jersey 2004 Integrated Water Quality Monitoring and Assessment Report, Bound Brook is listed under Sublist 5. A description of Sublist 5 as per USEPA guidance states, "The water quality standard is not attained. The waterway is impaired or threatened for one or more designated uses by a pollutant(s), and requires a total maximum daily load." The impairment criteria listed for Bound Brook includes dioxin and PCBs as a result of NJDEP fish tissue monitoring (NJDEP, 2004).

Although site-specific sampling investigations of the floodway and channel within OU-4 have yet to be conducted, it is possible that the existing PCB contamination within OU-2 prevents some of the uses consistent with an FW-2 Waterbody and contributes to NJDEP's Sublist 5 designation for Bound Brook.

4.c.2. Riparian Zones NJAC 7:13-10.2

The OU-2 portion of the site is hydrologically connected to Dismal Swamp where wood turtle (*Clemmys insculpta*), a state threatened species, has been documented by NJDEP. Although Dismal Swamp is hydrologically connected to Bound Brook, OU-2 is not adjacent to a segment of Bound Brook which contains documented habitat for the wood turtle nor is critically dependant on its survival. Therefore, the Riparian Zone is measured at a distance of 50-feet from the floodway limit as defined in NJAC 7:13-4.1(c)3 and shown in Figure 4-1.

SUMMARY OF VEGETATION COMMUNITY WITHIN THE RIPARIAN ZONE

Malcolm Pirnie biologists completed a vegetation survey & wetland delineation on May 29, 2007. A discussion of the broad ecological communities that exist in the OU-2 Flood Hazard Area and Riparian Zone, in relation to Figure 4-2 Ecological Settings is summarized herein.

FORESTED COMMUNITIES

The rooted location of trees representing OU-2's broad leaved deciduous forested areas include a small fringe at the northwest corner and along the eastern boundary of OU-2. Topographic locations of relatively flat forest represent the eastern segment, before transitioning to a sloped forest atop the embankment that moves beyond the limits of OU-2 and leads to the floodway within OU-4. Similarly, a sloped forest also exists to the northern segment atop the embankment that moves beyond the limits of OU-2 before leading into the floodway within OU-4.

Characteristic tree species recorded in relatively flat forests included sweetgum *Liquidambar styraciflua,* silver maple *Acer saccharinum,* catalpa *Catalpa speciosa,* red maple, *A. rubrum,* Norway maple *A. platanoides,* sassafras *Sassafras albidum,* red oak *Quercus rubra,* white oak *Q. alba,* black cherry *Prunus serotina,* common hackberry *Celtis occidentalis* and pin oak *Q. palustris.* The total number of tree species encountered atop embankments was reduced as only *P. serotina, C. speciosa, A. rubrum* and tree-of-heaven *Ailanthus altissima* were documented.

Understory vegetation at forested embankments included of multiflora rose *Rosa multiflora,*white snakeroot *Eupatorium rugosum,* Europeon privet *Ligustrum vulgare,* greenbrier *Smilax glauca,* Japanese honeysuckle *Lonicera japonica,* garlic mustard *Alliaria petiolata* and oriental bittersweet *Celasturs orbiculata.* Along the eastern boundary of broad leaved deciduous forested areas, relatively flat forest areas were predominantly devoid of understory vegetation. When vegetation was encountered, it was at the fringe of where forests transitioned to successional field moving further west into OU-2 and included species of poison ivy *Toxicodendron radicans,* fringed sedge *Carex crinita,*fox sedge *C. vulpinoidea,* mugwort *Artemiisia vulgaris, R. multiflora,* goldenrod *Solidago sp.* and Virginia creeper *Parthenocissus quinquefolia.*

SUCCESSIONAL FIELD COMMUNITY

At the time of the 2007 survey, the successional field communities within OU-2 included both a segment of fenced-in deteriorated asphalt, and an open area beyond this fence line. Within the fenced-in area, a number of species growing through the scattered cracks and broken pieces of asphalt included white sweet clover (*Melilotus alba*), Queen Ann's lace (*Daucus carota*), common mullein (*Verbascum thapsus*), *Solidago sp.* and a few scattered cottonwood trees (*Populus deltoides*). Moving to the north and east towards the OU-2 boundary limit, the open area beyond this fence line also included these five species as well as yellow sweet clover (*M. officinalis*), spotted knapweed (*Centaurea maculosa*), yarrow (*Achillea millefolium*), birdfoot trefoil (*Lotus corniculatus*) and a few scattered *C. speciosa* trees. Tree species encountered growing at the fence line separating these two successional field areas included *C. speciosa, Q. palustris* and *P. serotina.*

COMPLIANCE WITH REQUIREMENTS

Remedial activities associated with Federal Superfund projects are not specifically listed as a Proposed Regulated Activity under NJAC 7:13-10.2, Table C. In addition, the category "All Other Regulated Activities" in Table C also does not apply to OU-2 (or any Federal Superfund Site) as it would be impractical to limit the disturbance to the Riparian Zone and still achieve the goals established in the ROD to reduce risk to human health and the environment from uncontrolled release of hazardous waste.

Remedial activities at OU-2 prohibit the USEPA and USACE from meeting the limits of disturbance set forth in Table C and subsequently meets the requirements that constitute a hardship under NJAC 7:13-9.8 since the project's primary goal to ultimately protect public health, safety, welfare and the environment would be unachievable if restrictions or limitations to disturbance applied. In addition, re-vegetation of the 0.55 acre Riparian Zone in-situ will not be consistent with the ROD requirement to install a multi-layered cap or hardscape following remedial excavation and treatment/disposal of contaminated materials within the limits of OU-2.

The Final Design for OU-2 proposed that impacted wetlands delineated in 2007 would be restored as part of future OU-4 activities. Due to the capping requirement of the ROD, it is proposed that the impacts due to clearing, cutting and removal of 0.55 acres of vegetation within the Riparian Zone in OU-2 also be compensated for during future OU-4 phases of work. Following completion of remedial activities within OU-2, these 0.55 acres of Riparian Zone will be incorporated into the future OU-4 restoration design. Although only preliminary reconnaissance activities have been completed at OU-4 to date, consideration for defining re-planting areas with native species would include both removal of existing structures and/or impervious surfaces, as well as planting new native trees in vegetated areas substantially devoid of trees in accordance with NJAC 7:13-10.2.

4.c.3. Fishery Resources NJAC 7:13-10.5

Although Bound Brook contains four segments that are considered fishery resources in accordance with the Departments Surface Water Quality standards at NJAC 7:9B, the segment of Bound Brook along OU-2 is not included as a fishery resource segment, and as previously discussed, Bound Brook is a Sublist 5 impaired waterbody.

The only activities that would occur within the limits of the Bound Brook Channel include removal of accumulated debris and sediments from within select existing stormwater culverts discharging to Bound Brook. The remaining culverts not located within the limits of the Channel would be located within the limits of the Floodway.

For contaminated soil removal and clean backfilling within Flood Fringe, including additional activities such as hard cap/Stormwater Basin installation within the Riparian Zone, soil erosion and sediment control measures specifically developed for OU-2 as

detailed on Design Drawing's G-13 and G-14 and as part of the contractor's Certified Soil Erosion and Sediment Control Plan will be followed.

4.c.4. Threatened or Endangered Species

The NJDEP Division of Parks and Forestry, Office of Land Management, Natural Heritage Program (NHP) was contacted on June 6, 2007 to determine if rare flora and fauna were potentially present within and/or adjacent to the Site. In correspondence received from NHP dated June 21, 2007, the Natural Heritage Database and Landscape Project habitat mapping for occurrences of known rare wildlife species or wildlife habitat within one-quarter mile of OU-2 indicated that there are no records for occurrences of rare floral or faunal species, nor ecological communities supporting such species on or within one-quarter mile of OU-2. The correspondence sent to, as well as the entire package received from, the NHP is included under Item 8 of this Application Package.

The USEPA did conduct an informal Section 7 consultation with the USFWS in 1999. Information received from USFWS indicated that except for the transient bald eagle, no federally-listed species were known to occur from the project area. An additional Section 7 consultation was initiated by USEPA on June 16, 2006. The August 10, 2006 USFWS response indicated that the Indiana bat has the potential to be in the area. During daytime in the spring, summer and fall, Indiana bats roost under the bark, in crevices, hollows or snags of trees. In particular, the loose bark of large-diameter dead trees, the wide exfoliating bark plates typical of shagbark hickory (*Carya ovata*) and deciduous tree cavities are utilized by roosting bats. A copy of these records is also available under Item 8.

Although no records for occurrences of rare floral or faunal species, nor ecological communities supporting such species on or within one-quarter mile of OU-2 were included in the Natural Heritage Database response, OU-2 is hydrologically connected to Dismal Swamp where wood turtle (*Clemmys insculpta*), a state threatened species, has been documented by NJDEP. The limits of Dismal Swamp are located more than one-quarter mile away from OU-2. In addition to this distance, OU-2's lack of suitable mating, feeding, hibernating, egg laying and foraging habitat generally preclude utilization by wood turtle considering this species' affinity for the conditions described in the following two paragraphs.

Wood turtles are a unique species in that they utilize both aquatic and terrestrial environments as opposed to many turtle species that favor either land or water. The aquatic habitats are required for mating, feeding and hibernation while the terrestrial habitat is used for egg laying and foraging. Freshwater streams, brooks, creeks or rivers that are relatively remote provide habitat required for these turtles as they are often found within streams containing native brook trout (*Salvelinus fontinalis*). These tributaries are characteristically clean, free of litter and pollutants, and occur within undisturbed non-

wetlands such as fields, meadows or forests. Wood turtles may also be found on abandoned railroad beds or agricultural fields and pastures. With respect to vegetation, open fields and thickets of alder (*Alnus sp.*), greenbrier (*Smilax sp.*) or *R. multiflora* are favored basking habitats. Lowland, mid-successional forests dominated by *Quercus sp.*, black birch (*Betula lenta*) and *A. rubrum* are also used. However, typical wood turtle habitat contains few roads and are often located over one-half mile away from developed or populated areas.

As observed and documented during the May 29, 2007 wetland delineation and vegetation survey, the majority of non-wetland ecological communities both within, and just beyond, OU-2 have been historically disturbed, evidenced by the lack of surficial soils that have been either covered or replaced with fill material (i.e., slag, broken concrete block, gravel, wood, etc.). In flat forest areas, the undisturbed segment of non-wetland beyond the limits of OU-2 is adjacent to an active railroad, while similar non-wetland area conditions present at the southern border of OU-2 are less than 100 feet from Spicer Avenue. The remaining forested areas would not be considered lowland since they are either located on steep slopes, or atop these slopes. In order to obtain access to forested areas atop steep slopes or the successional field communities, it would be necessary for this species to uncharacteristically traverse a steeply sloped forest or successional shrubland. The non-trout designation of Bound Brook, in conjunction with influences of pollutants, would more than likely preclude Bound Brook's floodway, flood fringe and Riparian Zone from being utilized by wood turtles.

4.c.5. Regulated Waters

STORMWATER CONTROL AND EROSION/SEDIMENT CONTROL

Stormwater control is necessary to prevent the flow of uncontaminated runoff into excavations and to minimize the quantity of water to be treated and disposed. Means and methods for the diversion of stormwater and minimization of potential for erosion will be determined by the Contractor and include at a minimum the details shown on Design Drawings G-13 and G-14, which will be included in the Contractor's Soil Erosion and Sediment Control Plan. In addition, information contained in the Certified Soil Erosion and Sediment Control Plan will also be followed. Stormwater control will include sequencing work to limit open areas which would produce runoff into excavations, minimizing the size of excavations left open, covering open areas to prevent contact between contaminated materials and precipitation, and may include temporary sumps and pumping. Any stormwater that does enter the excavations will be considered impacted and will require collection and treatment (based on disposal facility requirements) prior to off-site disposal. Conversely, the Contractor is required to minimize potential for contaminated (impacted) water to flow into non-exclusion zones, as stormwater outside of the exclusion zone that is not in contact with contamination may be discharged to Bound Brook following appropriate erosion and sediment control measures. Following

excavation, a permanent stormwater control system is to be installed as outlined in Item 3, Engineering Report.

WATER TREATMENT AND DISPOSAL

All water that comes into contact with contaminated soils and with the LTTD treatment system pad and surrounding areas will be considered impacted and may require treatment (in accordance with disposal facility requirements) prior to disposal. The Contractor is to address and dispose of treated water in accordance with their approved Dewatering Work Plan.

EXPOSURE OF ACID-PRODUCING SOILS

The boundaries of OU-2 are located within the Raritan Coastal Plan Formation. Although this formation is associated with acid-producing soils in New Jersey, during remedial investigation of OU-2, a total of 17 soil samples from borings taken at the site included among other analyses, completing pH testing on each sample. pH's ranged from a low of 4.5 to a high of 8.4 for all 17 samples. Since acid-producing soils generally have a pH of 4.0 or lower following excavation, and a pH of 3.0 or lower after exposure to oxygen, encounters with acid-producing soils during remedial activities at OU-2 is not anticipated.

d) 4d Adverse Impact to Resource Discussion

In developing the ROD for OU-2, USEPA's response actions were developed in accordance with CERCLA to serve as long-term remedial response actions, that permanently and significantly reduce the dangers associated with release of contaminants that are serious, but not immediately life threatening. These response actions were determined to be the most appropriate for the site in terms of permanently and significantly reducing associated dangers that minimizes impacts to environmental resources both during its implementation and completed installation.

In developing the final remedial design for OU-2, NJAC Flood Hazard Area regulations were utilized to minimize environmental damage in developing the Stormwater Collection System by adhering to the following New Jersey requirements:

- The limits of the Stormwater Basin, stormwater conveyance system and emergency spillway are located outside of the NJDEP Flood Hazard Area (NJAC 7:13-11.2)
- No net fill exceeds the requirement set forth in NJAC 7:13-10.4 which states no more than 20 percent of the flood storage volume within OU-2 will be displaced, as calculated for both the volume between the NJDEP flood hazard area design flood and the 10-year flood, and the volume between the 10-year flood and the ground.

4.d.1. Justification for the Project

On September 30, 2004, USEPA issued a ROD for OU-2. The response action selected in the ROD for OU-2 soils includes:

(1) Excavation of an estimated 107,000 cubic yards of contaminated soil containing PCBs at concentrations greater than 500 ppm and contaminated soils that exceed IGWSCC for contaminants other than PCBs;

(2) On-site treatment of excavated soils amenable to treatment by LTTD, followed by backfilling of excavated areas with treated soils;

(3) Transportation of contaminated soil and debris not suitable for LTTD treatment to an off-site facility for disposal, with treatment as necessary;

(4) Excavation of an estimated 7,500 cubic yards of contaminated soil and debris from the capacitor disposal areas and transportation for disposal off site, with treatment as necessary;

(5) Installation of a multi-layer cap or hardscape;

(6) Installation of engineering controls;

(7) Property restoration; and

(8) Implementation of institutional controls.

4.d.2. Analysis of Alternatives

In developing the ROD, an analysis of remedial alternatives, including the no-action alternative, was completed in order to clearly define the required response action selected for OU-2. Due to the length of the ROD, it has not been included specifically in this Environmental Report. Please refer to the ROD for the analysis of alternatives to demonstrate compliance with Analysis of Alternatives under 4.d.2.

4.d.3. Measures Taken to Reduce Temporary and Permanent Detrimental Impacts to Resources in 4(c)

Measures to minimize temporary and permanent detrimental impacts have been discussed in 4c as part of each sub-requirement (4c1, 4c2, 4c3, 4c4 & 4c5). Specifically with respect to each of these sub-requirements:

- 4c1 Channel NJAC 7:13-10.1 – Aquatic habitat of Bound Brook will be both preserved and enhanced as a result of removing PCB contaminated material from OU-2 which possibly prevents some of the uses consistent with a state designated FW-2 Waterbody, and contributes to the state's Sublist 5 designation for Bound Brook. As a result, no temporary or permanent detrimental impacts are anticipated.

- 4c2 Riparian Zone NJAC 7:13-10.2 – Due to the capping requirement of the ROD, it is proposed that the impacts due to clearing, cutting and removal of 0.55 acres of Riparian Zone in OU-2 will be compensated for during future OU-4 phases of work. The temporary impact of delaying replacement of 0.55 acres of Riparian Zone will be minimized by the installation of the permanent stormwater control system.
- 4c3 Fishery Resources NJAC 7:13-10.5 – Similar to 4c1, aquatic habitat of Bound Brook will be both preserved and enhanced as a result of removing PCB contaminated material from OU-2. PCB levels in fish collected from Bound Brook contribute to the impairment criteria as a result of NJDEP fish tissue monitoring which included PCBs (NJDEP, 2004). As a result, no temporary or permanent detrimental impacts are anticipated.
- 4c4 Threatened or Endangered Species - A survey is not required under NJAC 7:13-10.6(e) as the ecological community of OU-2 and Bound Brook does not contain preferred habitat for wood turtle. It is therefore highly unlikely remedial actions at OU-2 would temporarily or permanently impact either individual turtles, or their preferred habitat.
- 4c5 Regulated Waters – Management of stormwater expected to be encountered during construction and following installation of the permanent stormwater control system, and impacted water treatment and disposal associated with excavation/LTTD operations have been designed in accordance with Federal and State standards to significantly reduce any temporary or permanent detrimental impacts. As a result of site specific soil investigations, encounters with acid producing soils at OU-2 during remedial activities would not be anticipated.

4.d.4. Plan to Mitigate Effect of All Unavoidable Adverse Impacts

4.d.4.1. Stormwater Basin

A permanent Stormwater Basin will be installed as part of proposed remedial activities at OU-2. The Stormwater Basin will mitigate the following potential adverse impacts associated with the remedial activities:

- The loss of infiltration capacity and resultant increased runoff within the Flood Hazard Area from paving approximately 0.68 acres of the previously un-vegetated Flood Hazard Area (Flood Fringe).
- The loss of infiltration capacity and resultant increased runoff outside of the Flood Hazard Area resulting from paving the remainder of OU2, approximately half of which is currently unpaved.

As a result of the design capturing stormwater and controlling discharge through an outlet structure, volumes of stormwater associated with sheet flow from within both the Flood Hazard Area, and impervious acreage adjacent the Flood Hazard Area will significantly reduce potential flood impacts attributed to surface flow contributions from within OU-2. For additional details on the design and construction of the permanent stormwater control system, refer to Item 3, Engineering Report.

4.d.4.2. Riparian Zone

The Final Design for OU-2 proposed that impacted wetlands delineated in 2007 would be restored as part of future OU-4 activities. Due to the capping requirement of the ROD, it is proposed that the impacts due to clearing, cutting and removal of 0.55 acres of vegetation within the Riparian Zone in OU-2 also be compensated for during future OU-4 phases of work. Following completion of remedial activities within OU-2, these 0.55 acres of Riparian Zone will be incorporated into the future OU-4 restoration design. Although only preliminary reconnaissance activities have been completed at OU-4 to date, consideration for defining re-planting areas with native species would include both removal of existing structures and/or impervious surfaces, as well as planting new native trees in vegetated areas substantially devoid of trees in accordance with NJAC 7:13-10.2.

NJDEP DLUR Freshwater Wetlands General Permit Equivalency

This section has been developed to facilitate NJDEP review of habitat-related components of the Cornell-Dubilier Electronics Superfund Site OU-2 remedial design as it pertains to NJDEP Department of Land Use Regulation (DLUR) Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A), Stormwater Management Rules (N.J.A.C. 7:8) and Flood Hazard Area Protection Act Rules (N.J.A.C. 7:13). It is anticipated that the USACE Contractor selected for the OU-2 remedial action will be responsible for submittal of additional permit equivalency packages regulated under N.J.A.C required for this work.

Freshwater Wetlands Compliance Statement

The Site consists of four operable units (OU-1, OU-2, OU-3 and OU-4) as described in Section 1.0 Introduction. Proposed remedial activities within OU-2 will require disturbance to freshwater wetlands (Wetland WA, Wetland WB/WC and a relatively small portion of Wetland WF), as well as transition area of wetlands located in OU-4 (Wetland WE and the remaining area of Wetland WF). Details regarding these wetlands were provided previously in Section's 3, 5 and 6 within the Habitat Assessment Report. The purpose of this Freshwater Wetlands Compliance Statement is to demonstrate how the proposed remedial activities that will occur within the boundaries of OU-2 would comply with the NJDEP DLUR Freshwater Wetland Protection Act Rules (N.J.A.C. 7:7A).

The remedial activities to occur within the limits of OU-2 will disturb approximately 0.36 acre of freshwater wetlands (Wetland WA = 0.30 acre, Wetland WB/WC = 0.06 acre and WF = 0.007 acre). Remedial activities meet the descriptions and requirements of General Permit No. 6 (GP-6), Non-Tributary Wetlands for Wetland's WA and WB/WC. Wetland WA and Wetland WB/WC are two hydrologically isolated wetlands situated above the 100-year floodplain elevation and are not "part of a surface water tributary system," defined at N.J.A.C. 7:7A-1.4 as: connected to a surface water that discharges into a lake, pond, river, stream, or other surface water feature, including stormwater or drainage pipe." Although an official determination from NJDEP is required to classify freshwater wetlands by resource value as defined in N.J.A.C. 7:7A-2.4, it is anticipated that wetlands WA and WB/WC would not meet the definition of either exceptional or ordinary resource value and therefore by default be classified as intermediate resource value. As a result, for the purposes of this equivalency report, the area of freshwater wetlands impact for proposed remedial activities will include a 50-foot transition area from the limits of Wetland WA and Wetland WB/WC.

Remedial activities also meet the descriptions and requirements of General Permit No. 4 (GP-4), Hazardous Site Investigation & Clean-up for disturbance to approximately 0.007 acres of Wetland WF and 0.48 acres of transition area located in OU-2, for wetland's WE and WF which are located in the 100-year floodplain and border Bound Brook (OU-4). Based on the N.J.A.C. definition to classify freshwater wetlands by resource value and for the purpose of this equivalency report, the area of freshwater wetlands impact for proposed remedial activities is based on a 50-foot transition area from the limits of Wetland WE and Wetland WF.

The Freshwater Wetland Protection Act Rules require the applicant to demonstrate that proposed project activities are in compliance with the standard conditions which apply to all general permits as detailed in N.J.A.C. 7:7A-4.3. In addition to these standard conditions, proposed project activities must comply with the conditions specific to the GP's being applied for. Compliance with all GP, GP-4 and GP-6 conditions is discussed in the following paragraphs. For those conditions that are not applicable to OU-2 remediation, a justification has been provided. For those conditions that are applicable, an explanation of compliance with that condition is either provided immediately following the statement or referenced to the appropriate Section and/or Attachment of the Habitat Assessment Report where the information can be found.

Conditions that Apply to All General Permit Authorizations (7:7A-4.3)

The following conditions apply to all activities conducted under the authority of a General Permit pursuant to N.J.A.C. 7:7A-4.3. This section discusses project compliance with the conditions that apply to all General Permit authorizations. Paragraph designations correspond with GP conditions in N.J.A.C. 7:7A-4.3.

(b) 1. The proposed OU-2 remediation is not intended to eliminate natural resources in order to avoid regulation. Impacts to natural resources will be minimized to the maximum extent practicable in order to meet remedial objectives. Mitigation for proposed disturbances to freshwater wetlands is not a requirement of the GP-6. Project activities that would be authorized under a GP-4 require disturbance to a relatively small amount of wetlands (0.007 acres) and transition area. As per N.J.A.C. 7:7A – 15, mitigation is not required for impacts to transition area. However, it is the intent of USACE to mitigate for the loss of 0.36 acre of freshwater wetlands during future remediation of OU-4, which will likely impact the freshwater wetlands associated with the Bound Brook floodplain (Wetlands WD, WE and WF) as well as Bound Brook.

(b) 2. There are no public community water supply intakes in the vicinity of OU-2. The two closest public water supply wells are located approximately 1,975 feet (Well ID# 2566177) and 2,480 feet (Well ID# 2511823) to the north of the closest OU-2 property boundary (NJDEP GIS Public Community Water Supply Wells, NJDEP 2008).

(b) 3. The proposed OU-2 remediation will not destroy, jeopardize or adversely modify a present or documented habitat for threatened or endangered species; nor will it jeopardize the continued existence of any local population of a threatened or endangered species (see Section 5.4 Wildlife Observations).

According to the NJDEP Landscape Project (Version 2.1), freshwater forested and emergent wetlands mapped by NJDEP within undeveloped areas of OU-2 have been classified as Patch Rank 1, meaning that the habitat meets habitat-specific suitability requirements for State priority species, but does not have documentation of such species occurring.

According to NJDEP Freshwater Wetlands Mapping, wetlands identified in the Landscape Project are further classified as either coniferous wooded wetlands or deciduous scrub/shrub wetlands.

The Site is located in South Plainfield, Middlesex County, NJ. There are no known occurrences of the endangered swamp pink (*Helonias bullata*) in this township, and only one questionable bog turtle (*Clemmys muhlenbergii*) occurrence in this county (http://www.state.nj.us/dep/fgw/bogturt.htm#status).

Section 2.0 Natural Heritage Data Request summarizes the correspondence received from NJDEP and USFWS regarding potential presence of rare flora and fauna within and/or adjacent to the Site. Copies of all correspondence received can be found in Attachment A. The only species identified by USFWS "that could be in the area" is the Indiana bat (*Myotis sodalis*; State and Federally endangered species). Winter hibernacula habitat for Indiana bat does not occur on the Site. The Site may contain individual trees typical of Indiana bat summer roosting habitat, including dead trees, shagbark hickory (*Carya ovata*) and green ash (*Fraxinus pennyslvanica*) associated with the floodplain (Beans and Niles 2003) of Bound Brook. As per USFWS, further consultation would be needed if any tree clearing was to occur between April 1st and September 30th. However, it is not anticipated that this species occurs on the site, given the fragmented nature of the vegetation both on-site and in adjacent areas.

For additional details regarding the ecological communities found on the entire Site, see Section 5.0 Ecological Communities.

(b) 4. Systems that have been classified as State or Federal Wild and Scenic River Systems, or are under study for inclusion in either system are not located in the vicinity of this project.

(b) 5. Cultural resources investigations at Cornell-Dubilier have both been completed and will be conducted as follows:

- Consultations with NJ SHPO have been on-going since at least 2003. A Phase Ia archaeological investigation (Reeve 2003; John Milner Associates, Inc. 2003) on the Cornell-Dubilier Electronics Superfund site determined that portions of it are archaeologically sensitive. An appendix to the report determined that the existing buildings at the site may be significant due to their association with the Spicer Manufacturing Corporation and recommended additional "architectural/historical work to further evaluate them."

1. Malcolm Pirnie's archaeologist has been in consultation with NJ SHPO and the Department of the Interior (DOI), National Park Service (NPS) Historic American Builds Survey (HABS)/Historic American Engineering Record (HAER)/Historic American Landscape Survey (HALS) division since 2005. A Historic Places significance evaluation for OU-2 was prepared by Malcolm Pirnie (2006a) in August 2006. It determined that the Spicer Manufacturing portion of the site was

significant and eligible for listing on the National Register of Historic Places. It recommended that the buildings undergo a HAER evaluation prior to their demolition. It also recommended that archaeological testing be undertaken in three portions of OU-2. These locations were: 1) the southeastern portion of the site where there is limited filling; 2) the eastern portion of the site where there is deep fill; 3) the vicinity of building number 7, the former location of an early 20th century forge. The NJ SHPO and DOI/NPS concurred with the conclusions and recommendation of the report.

2. Work plans for the architectural recordation of the Spicer era buildings and the archaeological testing of the sensitive portions of OU-2 were prepared by Malcolm Pirnie for submittal to the NJ SHPO in 2006 (Malcolm Pirnie, Inc. 2006b, 2006c). NJ SHPO approved the plans. A separate work plan was produced in 2007 for testing along the proposed rail spur at the site (Malcolm Pirnie, Inc. 2007a). It also was approved by NJ SHPO but never implemented since the area of the rail spur is no longer included within the boundaries of the site's remediation activities.

3. Field recordation of the existing Spicer era buildings was undertaken during 2007 by Raber Associates. The final recordation documents are still in preparation. NJ SHPO and DOI/NPS accepted interim submittals to allow for the buildings demolition prior to completion and submittal of the final HAER documentation.

4. Archaeological investigation of the sensitive portion of OU-2 was conducted by Malcolm Pirnie in the spring of 2007 (Malcolm Pirnie, Inc. 2007b) employing geotechnical-archaeological borings. The report on the work recommended that shovel testing be undertaken in the area. The report was approved by NJ SHPO.

5. Archaeological shovel testing of the portion of OU 2 where there is limited fill was undertaken by Malcolm Pirnie in 2007-2008. The report (Malcolm Pirnie, Inc. 2008a) on that work is being submitted to NJ SHPO in June 2008. No potentially significant cultural resources were identified in the "limited fill" portion of OU-2 that was investigated by the Phase Ib level shovel testing. No impacts to archaeological sites in this area are anticipated to occur as a result of soil remediation activities.

6. Archaeological testing in the former vicinity of Building 7 was undertaken by Malcolm Pirnie in 2008. The report (Malcolm Pirnie, Inc. 2008b) on that work is being submitted to NJ SHPO in June 2008.

7. Archaeological testing of the portion of OU-2 where there is deep fill will occur during the construction phase of the remediation project. It is not known at this point whether impacts to archaeological resources will occur within the area of extensive fill as a result of remedial activities since that area will not be investigated until the construction phase. If archaeological resources are encountered there at that time, the general area of the find could be by-passed

while consultation occurred with the NJ SHPO, USEPA and USACE as to the most appropriate way to proceed. At the least, if a site was identified in an area of impact, additional archaeological investigation (Phase II and/or Phase III level) may be necessary to determine the significance of the site and mitigate its destruction by remedial activities. Initially, this could involve additional excavation units to determine:

1. The spatial extent of the site
2. The time period represented
3. The function of the site
4. The extent of disturbance there
5. The site's potential to contribute to our knowledge of prehistory or history

(b) 6. Material used to fill excavated areas will consist of either clean remediated material that meet the New Jersey Impact to Groundwater Soil Cleanup Criteria or imported clean fill that meets the NJDEP requirements of N.J.A.C. 7:26E-6.4 and N.J.A.C. 7:26D with regard to commercial direct contact and impact to groundwater criteria. Imported fill will also have a pH between 4.5 and 9. It is anticipated that treatment/off-site disposal of approximately 85,000 cubic yards of material would take approximately 11 months to complete. Excavation/treatment activities are scheduled to begin in November 2009. Open excavations will be sloped/shored per OSHA requirements during remedial excavation activities. Excavations will be promptly backfilled with treated material or imported clean material as remediation progresses.

(b) 7. Fill material used for proposed OU-2 remediation will be maintained as specified in the Design Documents. It is anticipated that an asphalt cap will be placed over the extent of OU-2 following completion of intrusive activities, and that the Site will be graded to facilitate drainage towards a proposed stormwater detention basin. OU-2 is approximately 22 acres in size with 13 acres comprised of impervious surface while the remaining 9 acres currently consists of pervious surfaces.

(b) 8. According to the Standards for Soil Erosion and Sediment Control in NJ, (NJDEP 1999), the Site is not located in an area known to potentially contain substantial acid producing soil (refer to Figure 1-1 of the above referenced manual).

As described in Section 3.0 Wetland Delineation, and shown on Figure 4, OU-2 soil types consist of an Urban Land component. According to NJDEP Freshwater Wetlands Protection Act Rules, acid-producing soils are suspected when pH values are below 3.0 or between 3.0 and 4.0. The pH of soils with Urban Land as a classification component can vary since fill material likely occurs in varying amounts. During the remedial investigation of OU-2, Malcolm Pirnie Inc.'s PDI a total of 17 soil samples from borings were retrieved in 12/06 and 1/07, where pH was included as part of the laboratory analyses. Analytical pH results ranged from 4.5 to 8.4. Based on the pH sample results within OU-2, it is not anticipated that acid-producing soils will be encountered during remediation activities.

(b) 9. Approximately 4.59 acres of OU-2 is located in an area that is regulated under the Flood Hazard Area Control Act (N.J.S.A. 58:16A-50) according to review of Bound Brook State Delineated Flood Maps covering Station's 1488+00 to 1545+10 provided by NJDEP which show this elevation to be calculated as between elevation 71 and 72 feet above mean sea level. Of this acreage, approximately 3.24 acres is paved while 1.35 acres is classified as successional field community (Section 5.0 of the Habitat Assessment Report). Although the distinction between OU-2 and OU-4 is based on the FEMA 100–year floodplain, a separate submittal will be prepared in order to demonstrate permit equivalency with the Flood Hazard Area Program Rules and Regulations.

(b) 10. Remediation of OU-2 will generate an increase of approximately 9 acres in impervious surface area; of which 2.13 acres will be in areas regulated by NJDEP DLUR (0.36 acres of Wetland's WA, WB/WC and relatively small portion of WF; as well as 1.77 acres of transition area of these three wetlands as well as transition area of wetland WE that is located within OU-2 boundaries as shown on the drawing at the end of this Attachment H). Specific measures for managing stormwater are detailed in the Design Documents and include a stormwater detention basin with forebays, a bottom liner system, emergency spillway, and controlled discharge structures.

(b) 11. Remediation of OU-2 will involve excavation of contaminated material (soil and debris), treatment of soil using low temperature thermal desorption (LTTD) technology and backfilling treated soil on-Site, and/or off-site disposal of excavated material (debris) not amenable to LTTD treatment.. The excavated material will not be deposited or stored in freshwater wetlands, transitions areas, State open waters or other environmentally sensitive areas. However, any water that is encountered (including storm water or perched water) will be pumped out of excavations and containerized for off-Site disposal if within areas of contamination, or allowed to flow overland towards Bound Brook or elsewhere, with appropriate erosion and sediment controls in place as shown in the Design Documents, if within non-contaminated areas.

Material used to fill excavated areas will consist of either clean remediated material that meet the New Jersey Impact to Groundwater Soil Cleanup Criteria or imported clean fill that meets the NJDEP requirements of N.J.A.C. 7:26E-6.4 and N.J.A.C. 7:26D with regard to commercial direct contact and impact to groundwater criteria. Imported fill will also have a pH between 4.5 and 9. It is anticipated that treatment/off-site disposal of approximately 85,000 cubic yards of material would take approximately 11 months to complete. Excavation/treatment activities are scheduled to begin in November 2009. Open excavations will be sloped/shored per OSHA requirements during remedial excavation activities. Excavations will be promptly backfilled with treated material or imported clean material as remediation progresses.

(b) 12. The use of rip-rap or other energy dissipating material will be required for energy dissipation associated with the discharge flow from the stormwater detention basin outfall. Disturbances associated with basin creation and outfall construction will be within the limits of OU-2 with only a portion regulated under the Flood Hazard Area Act.

As previously stated, a separate submittal will be prepared in order to demonstrate permit equivalency with the Flood Hazard Area Program Rules and Regulations.

(b) 13. During remedial activities, Best Management Practices (BMPs) will be followed to prevent and/or minimize impacts to water quality and aquatic habitats in the vicinity of OU-2. As relevant and applicable, requirements and guidelines detailed in the NJDEP Storm Water Management Regulations, (N.J.A.C. 7:8) and the Standards for Soil Erosion and Sediment Control in NJ, promulgated by the NJ State Soil Conservation Committee at N.J.A.C. 2:90 will be followed. Erosion and sediment control measures will be detailed in the Soil Erosion and Sediment Control Plan (SESC Plan). Specific BMPs that will be utilized include the following:

- Straw bale dikes
- Silt fencing
- Temporary soil stockpile lining
- Rock construction entrances and exits

(b) 14. Remedial activities in OU-2 are subject to the NJDEP Water Quality Management Planning Rules at N.J.A.C. 7:15. A permit issued under NJDEP Freshwater Protection Act Rules shall constitute a State water quality certificate. As stated, compliance with applicable laws/regulations of NJDEP Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A) is being documented through submittal of this permit equivalency package as an attachment to the Habitat Assessment Report.

Groundwater is not expected to be encountered during OU-2 remedial activities. ANJPDES permit equivalency for treated stormwater encountered will be applied for by the contractor with the NJDEP Division of Remediation Management and Response.

In addition, remediation of OU-2 will not impact water quality of the surrounding freshwater wetlands and State open waters, which is also consistent with the Water Quality Management Planning Rules.

(b) 15. Proposed project activities are in the vicinity of Bound Brook. Bound Brook is classified as a FW2- NT (freshwater non-trout producing) waterbody. As stated, a SESC Plan will be prepared, where appropriate controls will be required to avoid introduction of sediment into Bound Brook (i.e., straw bale dikes, silt fencing etc.). Timing restrictions are therefore not proposed for the project.

(b) 16. Potential vernal habitat has not been mapped by NJDEP at OU-2, according to review of an interactive mapping database maintained by Rutgers University (http://www.dbcrssa.rutgers.edu/ims/vernal/viewer.htm). Although both wetlands delineated occur in defined depressions, ponded water was not observed during field activities conducted in May 2007. In addition, standing water was not encountered during the 18" soil probe holes augered within the boundaries of Wetland WA and soils were not saturated until advancing below 12" in depth (see Attachment C Field Data Forms). Substrate of wetland WB/WC consisted of remnant hard fill material primarily

comprised of broken concrete blocks therefore boring holes could not be completed as hand auger refusal occurred at the surface (see Attachment C Field Data Forms). Standing water was encountered in soil probes at the 7" depth in Wetland WF (see Attachment C Field Data Forms). As result of these conditions it is unlikely that these wetlands would be classified as vernal pool habitat.

Conditions that Apply to GP-4-Hazardous Site Investigation and Cleanup

The following conditions apply to all activities conducted under the authority of a GP-4. As stated, project activities that would be authorized under the GP-4 are those remediation activities that result in disturbances to 0.007 acres of the portion of Wetland WF in OU-2, as well as transition areas of Wetlands WE and WF (remaining boundaries located in OU-4).

GP-4 authorizes activities in freshwater wetlands, transition areas and State open waters which are undertaken by NJDEP or expressly approved in writing by the NJDEP Site Remediation Program, for the investigation, cleanup or removal of:

1) Hazardous substances as defined in the NJDEP rules for governing hazardous substances at N.J.A.C. 7:1E, Appendix A; or
2) Pollutants, as defined in the N.J. Water Pollution Control Act implementing rules of N.J.A.C. 7:14A.

The following conditions apply to all activities seeking authorization pursuant to Statewide GP-4 as set forth in N.J.A.C. 7:7A-5.4. Paragraph designations correspond with GP-4 conditions in N.J.A.C. 7:7A-5.4.

(a) Activities within freshwater wetlands, transition areas, and State open waters that are necessary for a hazardous site investigation and/or cleanup must be expressly written by the Department. EPA is implementing remediation activities at the Site by virtue of CERCLA.
(b) There is no acreage disturbance limitation for freshwater wetlands, transition areas and/or open waters. However, disturbance will be limited to the minimum necessary. The project will potentially result in approximately 0.007 acres of freshwater wetlands (portion of Wetland WF located in OU-2) and 0.48 acres of disturbance to wetland transition area of Wetland WE and Wetland WF. The proposed disturbances have been minimized to the maximum extent practicable in order to accomplish the previously described remedial objectives.
(c) As per N.J.A.C. 7:7A-15, mitigation is not required for disturbances to wetland transition area. However for both the 0.007 acres of freshwater wetlands and transition area, USACE is planning to mitigate for these impacts that would be authorized under the GP-4, as well as GP-6 upon completion of OU-4 remediation.
(d) All activities under GP-4 shall comply with the applicable requirements of N.J.A.C. 7:7A-4.3 entitled "Conditions that apply to all General Permit

Authorizations." Compliance with condition (d) is fully detailed in "Conditions that Apply to All General Permit Authorizations (7:7A-4.3)," above.

Conditions that Apply to GP-6-Non-Tributary wetlands (7:7A-5.6)

GP-6 authorizes activities in freshwater wetlands, transition areas and State open waters if these regulated areas are not part of a surface water tributary system discharging into an inland lake or pond, or a river or stream. As stated, project activities that would be authorized under the GP-6 are those remediation activities that result in disturbances to Wetland WA and Wetland WB/WC as well as their transition areas within OU-2. This section discusses project compliance with the conditions that apply to GP-6 authorizations. Paragraph designations correspond with GP conditions in N.J.A.C. 7:7A-5.6.

(b)1 The activities shall disturb no more than one acre of a freshwater wetland and/or State open water, which is not a water of the United States as defined at N.J.A.C. 7:7A-1.4.

Wetlands WA and WB/WC do not meet the definition of water of the United States, as per N.J.A.C. 7:7A-1.4. The total proposed disturbance will be less than one acre in size (Wetland WA = 0.30 acre and WB/WC = 0.06 acres; total of 0.36 acre).

(b)2. The activities will disturb more than one acre of a transition area. As discussed, Wetland WA, Wetland WB/WC, Wetland WE and Wetland WF would meet the definition of intermediate-value wetlands and have a transition area of 50-feet from their boundaries. A total of 1.77 acres of transition area will be disturbed as a result of remedial activities. For both the 0.36 acres of freshwater wetlands and 1.77 acre transition area, USACE is planning to mitigate for these impacts that would be authorized under the GP-6, as well as GP-4 upon completion of OU-4 remediation.

(b)3. Not applicable- The proposed project is not located in areas that would meet the definition of waters of the United States, as defined at N.J.A.C. 7:7A-1.4.

(c)1. Not applicable- As discussed, freshwater wetlands in the project area meet the definition of ordinary value wetlands.

(c)2. Not applicable- The proposed project is not located in an area that would meet the definition of a special aquatic site, as defined at N.J.A.C. 7:7A-1.4.

(c)3. Not applicable- The proposed project is not located in USEPA Priority Wetlands (USEPA 1989).

(c)4. Not applicable- The proposed project is not located in a State open water.

(c)5. Not applicable- As discussed, the proposed project is not located in wetlands that would meet the definition of vernal habitat, as defined at N.J.A.C. 7:7A-1.4.

(d). Activities will comply with all applicable requirements for conditions that apply to all general permits, as demonstrated above in the previous section.

Ecological References

Beans, B.E. and L. Niles (eds.) 2003. Endangered and Threatened Wildlife of New Jersey. Conserve Wildlife Foundation of New Jersey, Rutgers University Press, New Brunswick, NJ, 303 pages.

USEPA 1989. United States Environmental Protection Agency "Priority Wetlands for the State of New Jersey," May 1989.

Archaeology References

Malcolm Pirnie, Inc.

2006a Draft Historic Places Significance Evaluations Operable Unit 2 Cornell-Dubilier Electronics Superfund Site, South Plainfield, New Jersey. Eugene J. Boesch, Ph.D, R.P.A. Principal Investigator. Prepared for the United States Army Corps of Engineers.

2006b Final Archaeological Work Plan. Operable Unit 2, Cornell-Dubilier Electronics Superfund Site, South Plainfield, New Jersey. Eugene J. Boesch, Ph.D, R.P.A. Principal Investigator. Prepared for the United States Army Corps of Engineers.

2006c Final Archaeological Work Plan. Operable Unit 2, Cornell-Dubilier Electronics Superfund Site, South Plainfield, New Jersey. Eugene J. Boesch, Ph.D, R.P.A. Principal Investigator. Prepared for the United States Army Corps of Engineers.

2007a Draft – Addendum No. 2 Soil Archaeological Work Plan (Area of Potential Effect for the Proposed Rail Spur). Operable Unit 2, Cornell-Dubilier Electronics Superfund Site, South Plainfield, New Jersey. Eugene J. Boesch, Ph.D, R.P.A. Principal Investigator. Prepared for the United States Army Corps of Engineers.

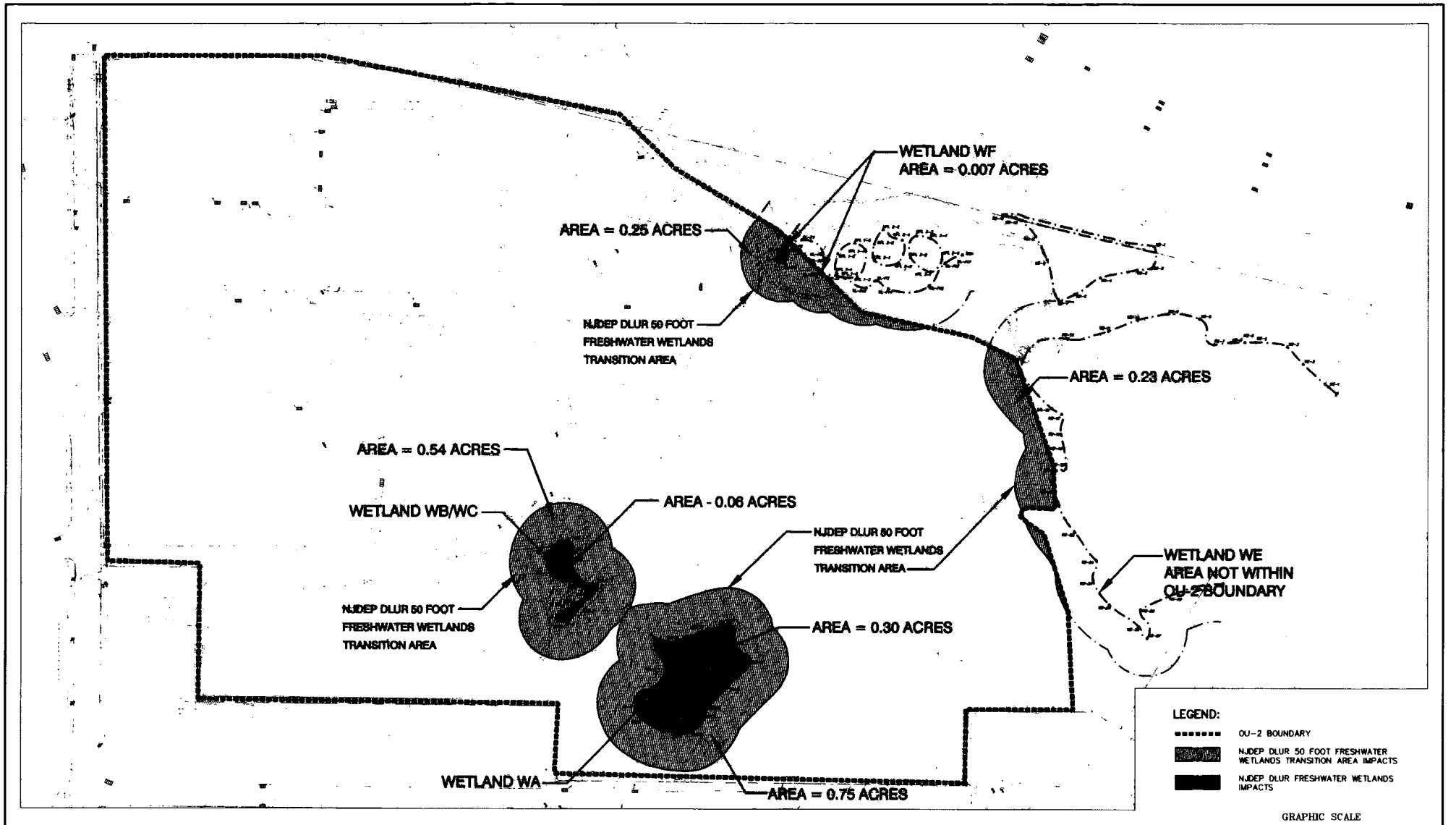
2007b Draft Soils Archaeological Field Investigation Summary – Round 1: Soil Borings. Operable Unit 2, Cornell-Dubilier Electronics Superfund Site, South Plainfield, New Jersey. Eugene J. Boesch, Ph.D, R.P.A. Principal Investigator. Prepared for the United States Army Corps of Engineers.

2008a Phase Ib Archaeological Investigation of the Area of Limited Fill; Operable Unit 2, Cornell-Dubilier Electronics Superfund Site, South Plainfield, New Jersey. Eugene J. Boesch, Ph.D, R.P.A. Principal Investigator. Prepared for the United States Army Corps of Engineers.

2008b Phase Ib Archaeological Investigation of the Building Number 7 Vicinity; Operable Unit 2, Cornell-Dubilier Electronics Superfund Site, South Plainfield, New Jersey. Eugene J. Boesch, Ph.D, R.P.A. Principal Investigator. Prepared for the United States Army Corps of Engineers.

John Milner Associates, Inc.
2003 "Appendix A Cornell-Dubilier Electronics Superfund Site Recommended Additional Architectural/Historical Work." In: Final Draft Stage IA Cultural Resources Investigations Report Cornell-Dubilier Electronics Superfund Site, South Plainfield, Middlesex County, New York. Stuart Reeve, Principal Investigator. Prepared for the United States Environmental Protection Agency. Prepared by Foster Wheeler Environmental Corporation.

Reeve, Stuart
2003 Final Draft Stage IA Cultural resources Investigations Report Cornell-Dubilier Electronics Superfund Site, South Plainfield, Middlesex County, New York. Prepared for the United States Environmental Protection Agency. Prepared by Foster Wheeler Environmental Corporation.



MALCOLM PIRNIE

REVISIONS			
NO.	BY	DATE	REMARKS

DES
DRN
CHD ///

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

CORNELL-DUBILIER

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

NJDEP DLUR

FRESHWATER WETLANDS AND TRANSITION AREA IN OU-2

SCALE: 1" = 60'

DATE JUNE 2008

SHEET 1 OF 1

CAD REF NO.

5. Public Notice Requirements

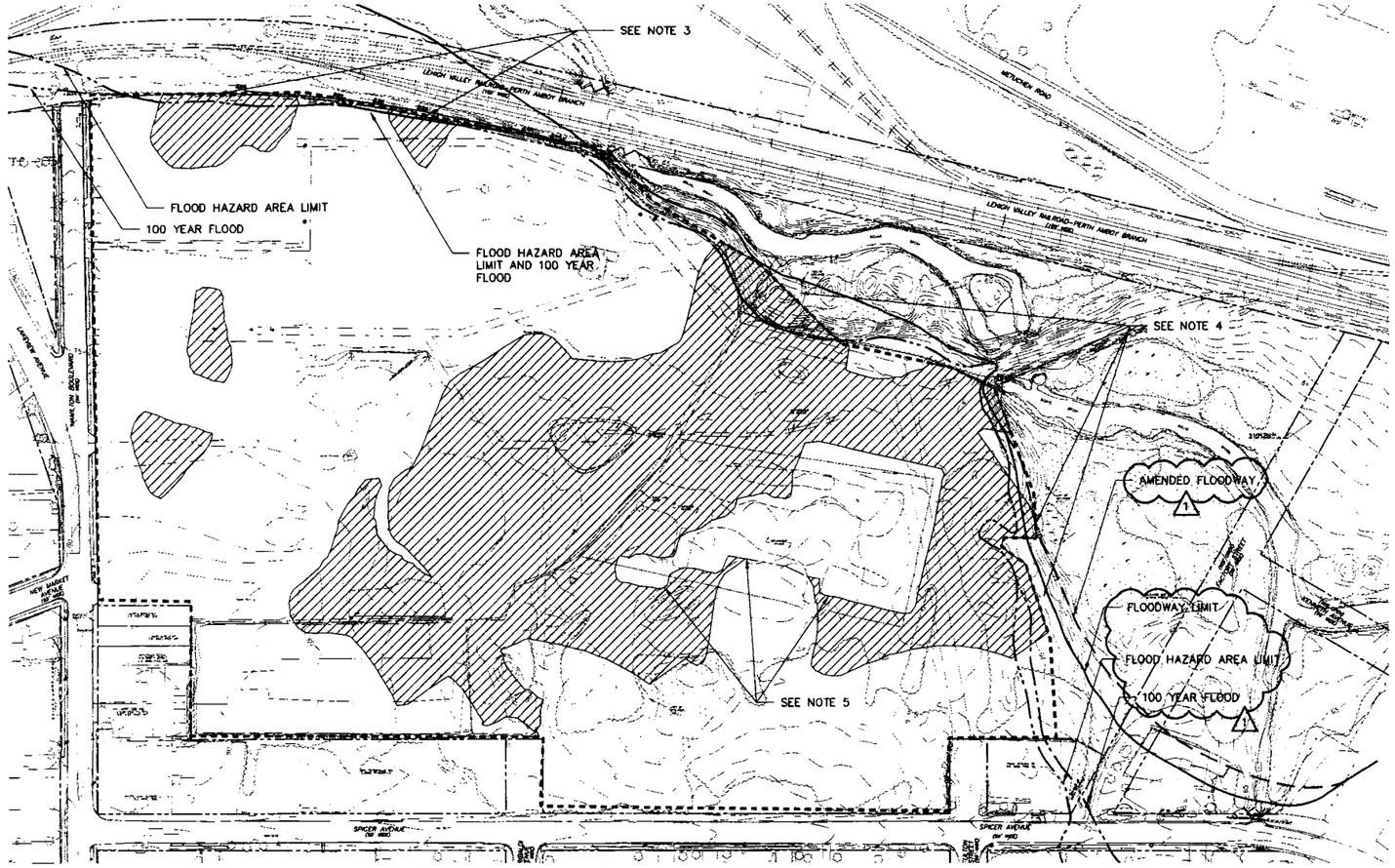
Not Required For Federal Superfund Projects.

6. Application Fee

Not Required For Federal Superfund Projects.

7. Design Drawings

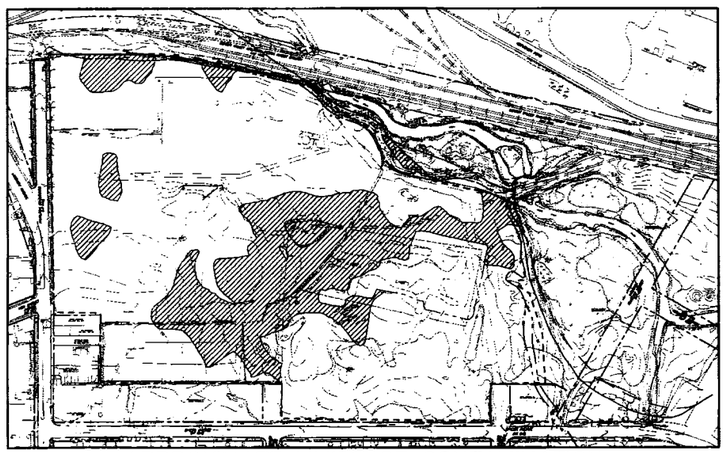
See Final Design Drawings at end of Application.



OVERALL APPROXIMATE LIMITS OF CONTAMINATION

50 0 50 100

SCALE: 1" = 100'



APPROXIMATE LIMITS OF CONTAMINATION
0'–2' DEPTH

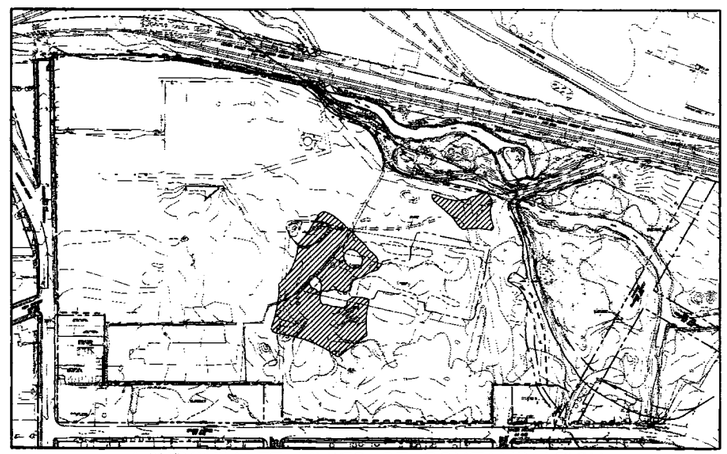
100 0 200

SCALE: 1" = 200'

APPROXIMATE LIMITS OF CONTAMINATION
2'–6' DEPTH

100 0 200

SCALE: 1" = 200'



APPROXIMATE LIMITS OF CONTAMINATION
6'–BOTTOM DEPTH

100 0 200

SCALE: 1" = 200'

NOTES:

1. APPROXIMATE LIMITS OF CONTAMINATION TAKEN FROM THE SOILS PRE-DESIGN INVESTIGATION (PDI) REPORT, AUGUST 2007.
2. LIMITS OF CONTAMINATION SHOWN REFLECT EXCEEDANCE OF PCB'S> 500 PPM, OTHER CONTAMINANTS >IGWSCC, OR BOTH.
3. DELINEATION OF SOIL CONTAMINATION HAS ONLY BEEN PERFORMED WITHIN OU2 PROPERTY LIMITS; THE EXTENT OF CONTAMINATION LIKELY DOES NOT END AT THE PROPERTY LINE ADJACENT TO THE RAILROAD PROPERTY AS SHOWN. USEPA WILL OBTAIN ACCESS AGREEMENTS WITH THE RAILROAD AND THE CONTRACTOR SHALL PERFORM SAMPLING IN THIS AREA, PER CONTRACTING OFFICER DIRECTION, TO DELINEATE THE EXTENT OF CONTAMINATION EXCEEDING RECORD OF DECISION (ROD) CLEANUP CRITERIA. CONTRACTOR SHALL THEN EXCAVATE AND TREAT/ DISPOSE REMOVED MATERIAL AND RESTORE RAIL PROPERTY TO CURRENT CONDITIONS.
4. SOIL WITH CONTAMINANTS IN EXCEEDANCE OF ROD CRITERIA HAS BEEN DELINEATED BEYOND THE OU2 BOUNDARY SHOWN. THESE CONTAMINATED SOILS OUTSIDE THE OU2 BOUNDARY ARE NOT SHOWN NOR ADDRESSED IN THIS CONTRACT. HOWEVER, CONTRACTOR SHALL EXCAVATE BEYOND THE OU2 BOUNDARY FOR THE PURPOSE OF BENCHING AND SIDE SLOPING ONLY OR CONFORM WITH OTHER PHYSICAL SITE FEATURES; EXCAVATION BEYOND THE LIMITS SHOWN SHALL BE COORDINATED WITH THE CONTRACTING OFFICER. SHOULD THE RESULTS OF CONFIRMATORY SAMPLING INDICATE THAT ADDITIONAL EXCAVATION IS WARRANTED, THAT ADDITIONAL EXCAVATION OF CONTAMINATED SOIL OUTSIDE OF THE OU2 BOUNDARY WILL BE ADDRESSED UNDER SEPARATE CONTRACT.
5. THIS AREA REPRESENTS THE APPROXIMATE LIMITS OF THE FORMER CAPACITOR DISPOSAL AREA, WHERE MATERIAL (SOIL AND DEBRIS) WAS EXCAVATED AND DISPOSED OF PREVIOUSLY UNDER SEPARATE CONTRACT. THE APPROXIMATE LIMITS OF THE CAPACITOR DISPOSAL AREA EXCAVATION ARE BASED ON PREVIOUS CONTRACTOR'S DRAFT RECORD SURVEY.
6. SURVEY (INCLUDING OVERHEAD UTILITIES) PERFORMED BY PENNONI ASSOC. ON 5/01/06, 5/08/06, 5/16/06, 8/08/06, 3/27/08.
   HORIZONTAL DATUM: NAD 83
   VERTICAL DATUM: NGVD 29
7. FLOOD LIMIT LINE INFORMATION TAKEN FROM NJDEP DELINEATION OF FLOODWAY AND FLOOD HAZARD AREA OF BOUND BROOK DRAWING PLATE No.7, JUNE 1977.

LEGEND:

- APPROXIMATE LIMITS OF CONTAMINATION
- APPROXIMATE LIMITS OF FORMER CAPACITOR DISPOSAL AREA (PREVIOUSLY REMEDIATED)
- OU2 BOUNDARY

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description	Date	Approved
1	ADDED PER NJDEP DRAWING TITLED DELINEATION OF FLOODWAY AND FLOOD HAZARD AREA OF BOUND BROOK, PLATE No.7 JUNE 1977. ADDED NOTES	11/12/10	JTS

Revisions

JEFFREY T. STORCESCU
PROFESSIONAL ENGINEER
NJ LICENSE 24GE04504400
11/12/2010
DATE: NOVEMBER 12, 2010

Designed by: JR | Date:
Drawn by: MW | Date:
Reviewed by: EAD | Date:
Approved by: JRB | Date:
File Name: G05-4553C005

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY, 10th FLOOR
WHITE PLAINS, NEW YORK 10601
MALCOLM PIRNIE
2A6027977200

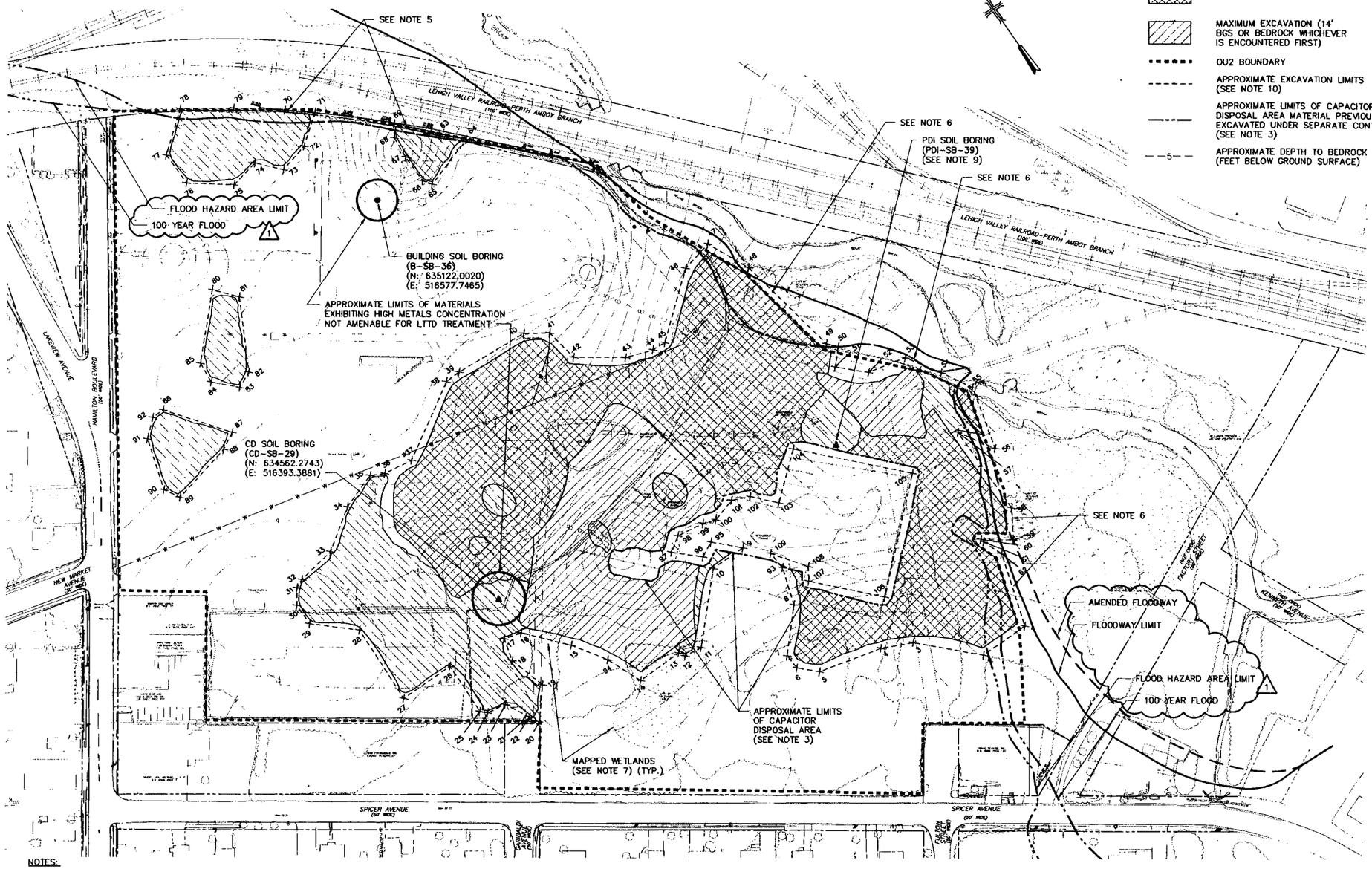
CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

LIMITS OF CONTAMINATION

G-05

Sheet 5 of 20

AS NOTED
bar is one inch on original drawing.
0 1"



LEGEND:

- 2' MAXIMUM EXCAVATION
- 6' MAXIMUM EXCAVATION
- MAXIMUM EXCAVATION (14' BGS OR BEDROCK WHICHEVER IS ENCOUNTERED FIRST)
- OU2 BOUNDARY
- APPROXIMATE EXCAVATION LIMITS (SEE NOTE 10)
- APPROXIMATE LIMITS OF CAPACITOR DISPOSAL AREA MATERIAL PREVIOUSLY EXCAVATED UNDER SEPARATE CONTRACT (SEE NOTE 3)
- --5-- APPROXIMATE DEPTH TO BEDROCK (FEET BELOW GROUND SURFACE)

EXCAVATION LIMIT POINTS

NO.	NORTHING	EASTING
1	634095.1018	516883.3780
2	634095.1018	516911.8473
3	634167.8530	516840.4297
4	634188.4811	516797.2351
5	634212.1731	516706.2379
6	634235.4632	516682.9470
7	634257.5174	516681.4768
8	634310.8483	516731.1716
9	634418.4948	516718.7371
10	634419.1544	516667.6198
11	634338.2634	516588.6257
12	634341.4803	516562.8900
13	634350.4916	516558.0842
14	634350.4916	516490.8200
15	634448.2910	516439.4966
16	634504.2814	516391.3209
17	634511.5782	516366.5523
18	634479.9756	516358.1544
19	634426.9140	516373.3245
20	634387.3250	516339.4416
21	634400.4898	516321.1321
22	634400.4896	516331.6880
23	634434.8021	516314.2897
24	634439.5568	516286.7711
25	634447.4692	516278.8587
26	634524.2804	516281.5242
27	634525.1311	516201.7711
28	634640.8502	516206.6505
29	634689.1379	516154.1895
30	634720.7449	516154.1816
31	634740.9009	516168.9546
32	634746.4233	516181.4210
33	634755.4758	516237.0447
34	634792.8264	516293.3928
35	634810.3875	516345.4257
36	634800.5185	516363.8834
37	634793.6140	516405.7641
38	634856.1431	516510.2258
39	634856.9781	516532.7724
40	634847.9800	516638.9816
41	634827.1066	518869.8260
42	634778.9917	516677.8738
43	634736.0026	516737.8780
44	634722.2557	516775.6820
45	634720.4677	516795.3509
46	634788.7441	516880.3510
47	634798.3140	516926.0735
48	634737.4164	516953.8745
49	634585.4020	516982.3772
50	634572.5331	516994.1431
51	634551.3209	516973.9302
52	634517.6862	517008.3298
53	634503.9804	517063.5914
54	634456.1361	517093.9321
55	634412.9747	517117.9107
56	634324.2886	517094.2610
57	634373.6813	517064.5157
58	634242.2982	517064.5157
59	634203.6855	517040.3828
60	634230.8906	517003.7271
61	634225.8387	517004.9900
62	634197.8485	517015.4864
63	635146.7221	516703.3847
64	635117.8149	516729.7608
65	635094.6787	516654.1233
66	635106.5097	516645.9638
67	635147.6404	516645.5391
68	635178.8067	516647.8589
69	635195.2938	516659.0657
70	635301.1329	516543.5425
71	635273.6076	516576.4650
72	635243.9253	516536.8387
73	635233.8982	516493.8907
74	635265.5051	516485.7601
75	635258.0009	516423.8416
76	635299.0818	516370.4364
77	635347.6402	516369.5022
78	635389.3761	516422.8892
79	635345.8171	516485.1713
80	635155.7906	516313.1694
81	635124.9068	516339.0502
82	635030.3624	516288.8439
83	635020.1284	516265.7963
84	635050.3061	516236.8501
85	635080.9470	516239.7200
86	635057.3663	516158.9609
87	634974.7259	516220.3815
88	634961.9447	516196.3737
89	634942.1767	516106.7595
90	634964.1394	516094.6423
91	635036.9232	516118.8558
92	635057.3663	516140.5890
93	634363.1942	516748.4505
94	634401.8273	516469.8003
95	634451.4875	516686.6988
96	634441.3217	516664.9867
97	634472.8770	516632.0961
98	634486.0138	516653.0737
99	634479.6596	516892.3448
100	634472.8680	516710.4227
101	634482.5923	516744.4069
102	634471.5781	516769.0857
103	634440.6979	519797.3230
104	634491.2035	516857.7733
105	634364.0395	516977.6185
106	634244.2646	516884.0170
107	634325.8345	516767.8799
108	634342.9701	516779.5683
109	634389.3792	516746.4140

NOTES:

1. APPROXIMATE LIMITS OF CONTAMINATION TAKEN FROM SOIL PRE-DESIGN INVESTIGATION (PDI) REPORT, AUGUST, 2007.
2. EXCAVATE TO THE DEPTHS SHOWN OR BEDROCK, WHICHEVER IS ENCOUNTERED FIRST.
3. EXCAVATION AND OFF-SITE DISPOSAL OF MATERIALS (SOIL AND DEBRIS) IN FORMER CAPACITOR DISPOSAL AREA HAVE TAKEN PLACE PREVIOUSLY UNDER SEPARATE CONTRACT. THE APPROXIMATE LIMITS OF THE CAPACITOR DISPOSAL AREA EXCAVATION ARE BASED ON PREVIOUS CONTRACTOR'S DRAFT RECORD SURVEY.
4. EXCAVATION LIMIT POINTS SHOWN DEPICT OVERALL LIMITS OF EXCAVATION AS DETERMINED BY CONTAMINATION DELINEATION. CONTRACTOR SHALL SUBMIT AN EXCAVATION PLAN OUTLINING ALL INTERIOR LIMIT POINTS, INCLUDING SLOPE TRANSITIONS BETWEEN ARES OF VARYING REQUIRED DEPTHS OF EXCAVATION.
5. DELINEATION OF SOIL CONTAMINATION HAS ONLY BEEN PERFORMED WITHIN OU2 PROPERTY LIMITS; THE EXTENT OF CONTAMINATION LIKELY DOES NOT END AT THE PROPERTY LINE ADJACENT TO THE RAILROAD PROPERTY AS SHOWN. USEPA WILL OBTAIN ACCESS AGREEMENTS WITH THE RAILROAD AND THE CONTRACTOR SHALL PERFORM SAMPLING IN THIS AREA, PER CONTRACTING OFFICER DIRECTION, TO DELINEATE THE EXTENT OF CONTAMINATION EXCEEDING RECORD OF DECISION (ROD) CLEANUP CRITERIA. CONTRACTOR SHALL THEN EXCAVATE AND TREAT/ DISPOSE REMOVED MATERIAL AND RESTORE RAIL PROPERTY TO CURRENT CONDITIONS.
6. SOIL WITH CONTAMINANTS IN EXCEEDANCE OF ROD CRITERIA HAS BEEN DELINEATED BEYOND THE OU2 BOUNDARY SHOWN. THESE CONTAMINATED SOILS OUTSIDE THE OU2 BOUNDARY ARE NOT SHOWN NOR ADDRESSED IN THIS CONTRACT. HOWEVER, CONTRACTOR SHALL EXCAVATE BEYOND THE OU2 BOUNDARY FOR THE PURPOSE OF BENCHING AND SIDE SLOPING ONLY OR CONFORM WITH OTHER PHYSICAL SITE FEATURES; EXCAVATION BEYOND THE LIMITS SHOWN SHALL BE COORDINATED WITH THE CONTRACTING OFFICER. SHOULD THE RESULTS OF CONFIRMATORY SAMPLING INDICATE THAT ADDITIONAL EXCAVATION IS WARRANTED, THAT ADDITIONAL EXCAVATION OF CONTAMINATED SOIL OUTSIDE OF THE OU2 BOUNDARY WILL BE ADDRESSED UNDER SEPARATE CONTRACT.
7. TREATED MATERIAL SHALL ONLY BE PLACED WITHIN THE LIMITS OF EXCAVATION. WITH THE EXCEPTION OF DENSE GRADED AGGREGATE PLACED DURING PREVIOUS DEMOLITION ACTIVITIES, EXISTING MATERIALS (INCLUDING CONCRETE IF CRUSHED) LOCATED OUTSIDE OF EXCAVATION LIMITS SHALL ONLY BE USED TO REGRADE SIMILAR AREAS OUTSIDE EXCAVATION LIMITS.
7. WETLANDS WERE DELINEATED IN 2007; SEE HABITAT ASSESSMENT REPORT INCLUDED IN DESIGN ANALYSIS REPORT (DAR). WETLANDS RESTORATION IS PROPOSED TO BE COMPLETED AS PART OF OU4 RESTORATION UNDER SEPARATE CONTRACT; USEPA IS CURRENTLY ADDRESSING THIS WITH NJDEP.
8. CONTRACTOR SHALL IMPLEMENT MEASURES TO PREVENT THE MIGRATION OF CONTAMINANTS DURING EXCAVATION AND OTHER SITE ACTIVITIES.
9. DIOXIN WAS DETECTED IN SOIL FROM PDI SOIL BORING NO. 39 (N: 634461.1300, E: 516911.9300) DURING PDI. CONTRACTOR SHALL SAMPLE THE SURROUNDING SOIL IN ACCORDANCE WITH SPECIFICATION SECTION 01450A.
10. APPROXIMATE EXCAVATION LIMITS ARE BASED ON A 1.5H TO 1V SLOPING FACTOR AND ARE SHOWN FOR GENERAL GUIDANCE ONLY. CONTRACTOR SHALL SLOPE EXCAVATIONS PER OSHA REQUIREMENTS AS APPROPRIATE.

0 40 80 160
SCALE: 1" = 80'
Verify Scale
bar is one inch on original drawing.
0 1"

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description	Date	Approved
1	ADDED PER NJDEP DRAWING TITLED DELINEATION OF FLOODWAY AND FLOOD HAZARD AREA OF BOUND BROOK, PLATE No.7 JUNE 1977. ADDED NOTES	11/12/10	JTS

Revisions

JEFFREY T. STOICESCU
PROFESSIONAL ENGINEER
NJ LICENSE 24GE04004400
DATE: NOVEMBER 12, 2010

Designed by: JR | Date | Approved by: JRB | Date | File Name: 006-455306006
Drawn by: MW | Date | Reviewed by: EAD | Date

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

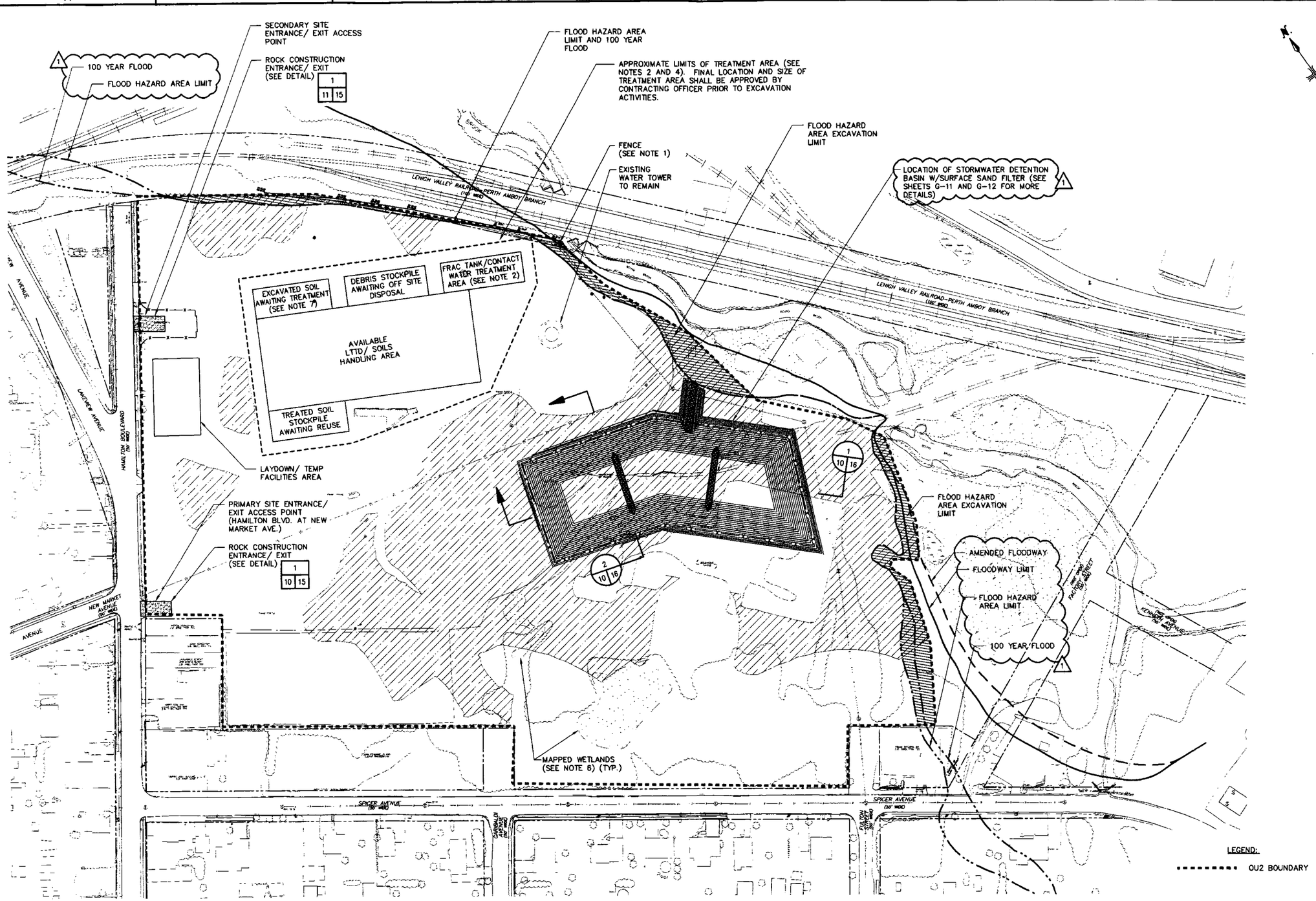
MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY, 18th FLOOR
WHITE PLAINS, NEW YORK 10601
24GE02971200

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

EXCAVATION PLAN

G-06

Sheet 6 of 20



NOTES:

1. CONTRACTOR SHALL INSTALL FENCING AROUND OU2 BOUNDARY AND AROUND STORMWATER DETENTION BASIN W/SURFACE SAND FILTER DURING REMEDIATION ACTIVITIES.
2. TREATMENT AREA SHOWN IS REPRESENTATIVE OF PROJECT NEEDS. CONTRACTOR SHALL DETERMINE ACTUAL AREA REQUIREMENTS BASED ON EQUIPMENT SELECTION. FINAL LAYOUT IS SUBJECT TO CONTRACTING OFFICER APPROVAL.
3. THE PROPOSED LOCATION OF THE STORMWATER DETENTION BASIN W/SURFACE SAND FILTER AND ASSOCIATED CONVEYANCE SYSTEM MAY BE MODIFIED BY CONTRACTOR IF APPROVED BY CONTRACTING OFFICER. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE STORMWATER REGULATIONS, AND SHALL SEQUENCE EXCAVATION AND EROSION AND SEDIMENT CONTROL ACTIVITIES IN ACCORDANCE WITH CONTRACTOR'S APPROVED EXCAVATION AND SEDIMENT CONTROL PLAN.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION, STORAGE, TREATMENT, AND OFFSITE DISPOSAL OF ALL WATER ENTERING EXCAVATION AND TREATMENT AREAS. WATER FROM EXCAVATION AND TREATMENT AREAS (EXCLUSION ZONE) SHALL NOT BE DISCHARGED TO BOUND BROOK OR THE LOCAL PUBLIC OWNED TREATMENT WORKS WITHOUT WRITTEN APPROVAL FROM THE CONTRACTING OFFICER. STORMWATER RUNOFF SHALL BE DIVERTED AWAY FROM EXCAVATION AND TREATMENT AREAS TO THE GREATEST EXTENT PRACTICABLE.
5. PRIMARY SITE ACCESS POINT MAY NEED TO BE RELOCATED BASED ON USEPA AND BOROUGH OF SOUTH PLAINFIELD DISCUSSIONS REGARDING NEW MARKET AVENUE EXTENSION THROUGH WESTERN SIDE OF SITE. SEE NOTE 2 FROM SHEET G-03.
6. WETLANDS WERE DELINEATED IN 2007; SEE HABITAT ASSESSMENT REPORT INCLUDED IN DESIGN ANALYSIS REPORT (DAR). WETLANDS RESTORATION IS PROPOSED TO BE COMPLETED AS PART OF OU4 RESTORATION UNDER SEPARATE CONTRACT; USEPA IS CURRENTLY ADDRESSING THIS WITH NJDEP.
7. FEED PREP STRUCTURE(S) SHALL BE CONSTRUCTED WITHIN THE LIMITS OF THE "EXCAVATED SOIL AWAITING TREATMENT" AREA
8. CONTRACTOR SHALL KEEP ALL TEMPORARY PERIMETER EROSION AND SEDIMENT CONTROLS IN-PLACE UNTIL FINAL RESTORATION HAS BEEN COMPLETED AND APPROVED BY CONTRACTING OFFICER.

0 40 80 160
SCALE: 1" = 80'
Verify Scale
bar is one inch on original drawing.
0 1"

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description	Date	Approved
1	ADDED PER NJDEP DRAWING TITLED DELINEATION OF FLOODWAY AND FLOOD HAZARD AREA OF BOUND BROOK, PLATE No.7 JUNE 1977, REVISED STORMWATER DETENTION BASIN W/SURFACE SAND FILTER	11/12/10	JTS

Revisions

JEFFREY T. STOICESCU
PROFESSIONAL ENGINEER
NJ LICENSE 24GE04504400
DATE: NOVEMBER 12, 2010

Designed by	Date	Approved by	Date	File Name
JR		JRB		G11-45530010
Drawn by	Date	Reviewed by	Date	
MW		EAD		

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

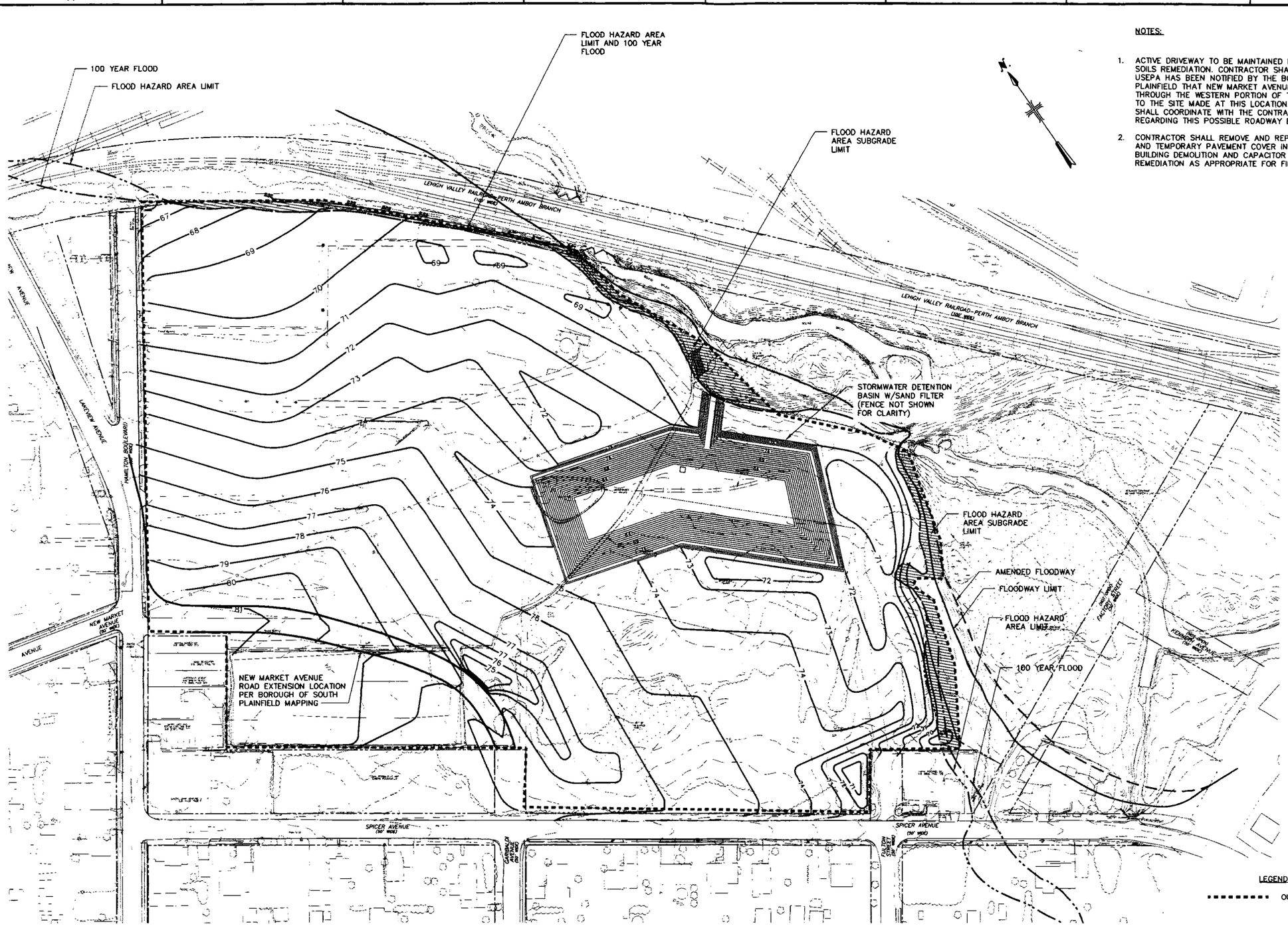
MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY 9TH FLOOR
WHITE PLAINS, NEW YORK 10601
MALCOLM PIRNIE
2404279700

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

PROPOSED REMEDIATION PLAN

G-10

Sheet 13 of 20



NOTES:

1. ACTIVE DRIVEWAY TO BE MAINTAINED IN SERVICE DURING SOILS REMEDIATION. CONTRACTOR SHALL NOTE THAT THE USEPA HAS BEEN NOTIFIED BY THE BOROUGH OF SOUTH PLAINFIELD THAT NEW MARKET AVENUE MAY BE EXTENDED THROUGH THE WESTERN PORTION OF THE SITE, WITH ACCESS TO THE SITE MADE AT THIS LOCATION. THE CONTRACTOR SHALL COORDINATE WITH THE CONTRACTING OFFICER REGARDING THIS POSSIBLE ROADWAY EXTENSION.
2. CONTRACTOR SHALL REMOVE AND REPLACE EXISTING PAVING AND TEMPORARY PAVEMENT COVER INSTALLED DURING BUILDING DEMOLITION AND CAPACITOR DISPOSAL AREA REMEDIATION AS APPROPRIATE FOR FINAL SITE GRADING.

0 40 80 160
SCALE: 1" = 80'
Verify Scale
bar is one inch on original drawing.
0 1"

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description	Date	Approved
1	REVISED ENTIRE SHEET	11/12/10	JTS

Revisions

JEFFREY T. STOICESCU
PROFESSIONAL ENGINEER
NJ LICENSE 24GE04504400
DATE: NOVEMBER 12, 2010

Designed by JR	Date	Approved by JRB	Date
Drawn by MW	Date	File Name G13-45536012	
Reviewed by EAD	Date		

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

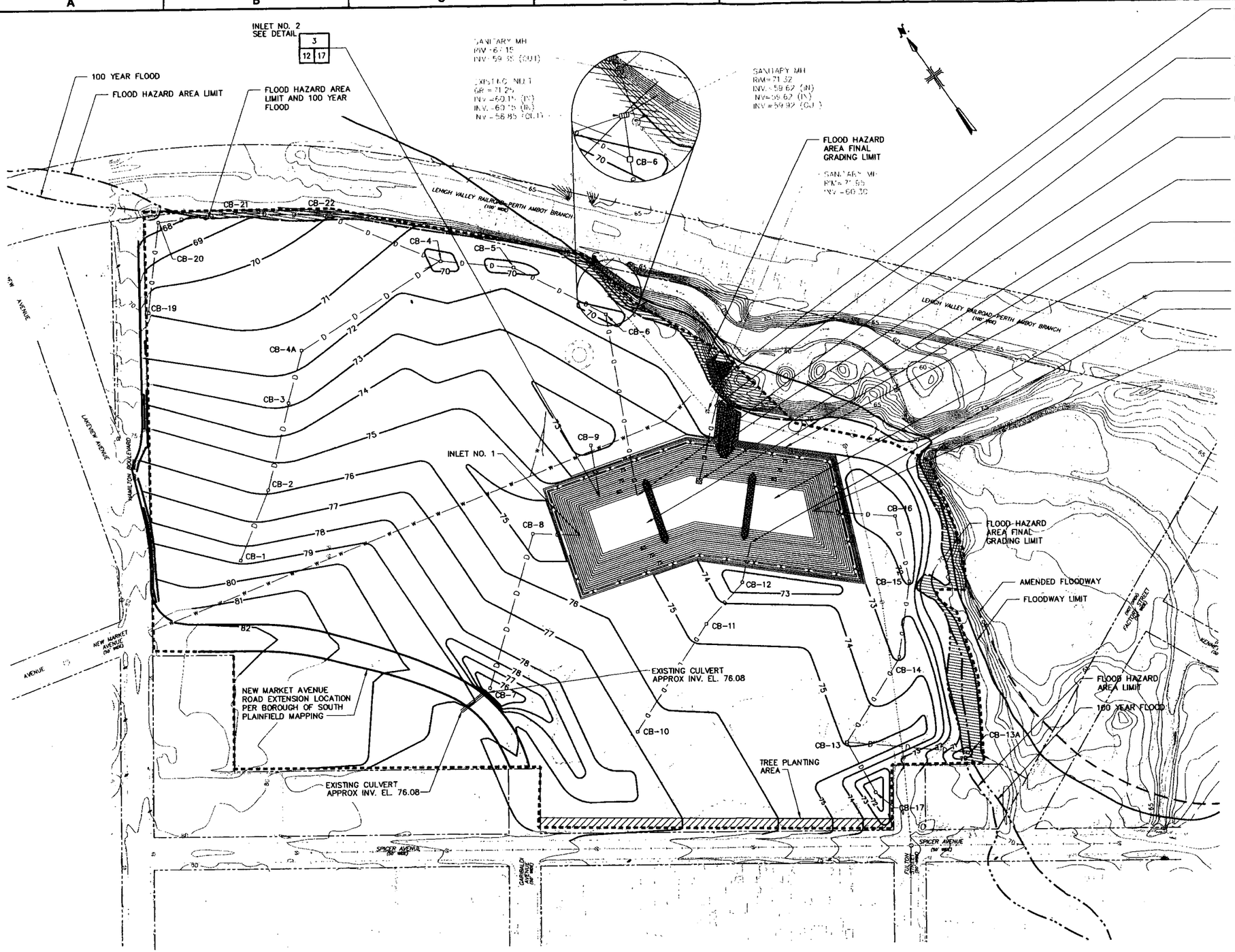
MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY, 10th FLOOR
WHITE PLAINS, NEW YORK 10601
24427971200

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

SUBGRADE GRADING PLAN

G--11

Sheet 14 of 20



CATCH BASIN SCHEDULE				
BASIN NO.	TYPE	RIM EL.	INV. EL. (IN)	INV. EL. (OUT)
CB-1	2	78.80	–	70.33
CB-2	2	75.80	68.83	68.83
CB-3	2	72.80	67.78	67.78
CB-4	1	70.50	66.00	62.40
CB-4A	2	71.50	67.30	67.30
CB-5	1	70.50	62.40	62.40
CB-6	1	70.50	62.00	62.00
CB-7	2	75.50	–	69.50
CB-8	2	74.50	68.68	68.68
CB-9	1	72.50	–	68.00
CB-10	2	76.80	–	72.00
CB-11	2	74.50	68.00	68.00
CB-12	1	72.50	67.60	67.60
CB-13	2	75.00	65.53	65.53
CB-13A	2	69.50	–	66.00
CB-14	2	73.00	65.03	65.03
CB-15	2	71.80	64.63	64.63
CB-16	1	71.20	64.28	64.28
CB-17	2	71.50	–	67.33
CB-19	3	71.00	–	66.59
CB-20	3	67.80	63.79	63.79
CB-21	3	68.80	63.55	63.55
CB-22	3	70.00	63.20	63.20

PIPE SCHEDULE	
PIPE RUN	DIA. (FT)
CB-1 TO CB-2	1.0
CB-2 TO CB-3	1.0
CB-3 TO CB-4A	1.5
CB-4A TO CB-4	1.5
CB-4 TO CB-5	2.5
CB-5 TO CB-6	2.5
CB-6 TO POND	2.5
CB-7 TO CB-8	2.0
CB-8 TO POND	3.0
CB-9 TO POND	1.5
CB-10 TO CB-11	1.0
CB-11 TO CB-12	1.5
CB-12 TO POND	2.0
CB-13A TO CB-13	1.0
CB-13 TO CB-14	1.5
CB-14 TO CB -15	2.0
CB-15 TO CB-16	2.0
CB-16 TO POND	2.5
CB-17 TO CB-13	1.0
CB-19 TO CB-20	1.0
CB-20 TO CB-21	1.5
CB-21 TO CB-22	2.5
CB-22 TO CB-4	2.5
POND OUTLET	1.5

NOTES:

1. CONTRACTOR SHALL REMOVE AND REPLACE EXISTING PAVING AND TEMPORARY PAVEMENT COVER INSTALLED DURING BUILDING DEMOLITION AND CAPACITOR DISPOSAL AREA AS APPROPRIATE FOR FINAL SITE GRADING.
2. ALL PROPOSED STORM LINES SHALL BE PLACED WITHIN A PROPOSED "CLEAN" UTILITY TRENCH. SEE DETAILS ON SHEET G-15.
3. CONTRACTOR SHALL REMOVE BEDROCK AS NECESSARY FOR INSTALLATION OF PROPOSED STORM PIPING AND STORMWATER DETENTION BASIN W/SURFACE SAND FILTER CONSTRUCTION.
4. THE VOLUME BALANCE PRESENTED IN THE DESIGN ANALYSIS REPORT (DAR) IS BASED ON EXISTING SITE TOPOGRAPHY PRIOR TO BUILDING DEMOLITION ACTIVITIES, AND INCLUDED ASSUMPTIONS ON GRADES WITHIN BUILDING FOOTPRINTS. CONTRACTOR MAY NEED TO ADJUST FINAL GRADES BASED ON ACTUAL RECORD SURVEY INFORMATION FOLLOWING BUILDING DEMOLITION; CONTRACTING OFFICER WILL PROVIDE CONTRACTOR WITH A COPY OF THAT RECORD SURVEY. ALL PROPOSED ADJUSTMENTS TO DESIGN GRADES SHALL BE APPROVED BY THE CONTRACTING OFFICER.

LEGEND:

- OU2 BOUNDARY
- 76 PROPOSED CONTOURS
- FLOOD HAZARD AREA WITHIN OU2 BOUNDARY

0 40 80 160
SCALE: 1" = 80'
Verify Scale
bar is one inch on original drawing.
0 1"

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description (Revisions)	Date	Approved
1	REVISED ENTIRE SHEET	11/12/10	JTS

JEFFREY T. STOUDSOU, PROFESSIONAL ENGINEER, NJ LICENSE 24GE04504400
DATE: NOVEMBER 12, 2010

Designed by JR | Date | Approved by JRB | Date | File Name G14-45536013
Drawn by MW | Date | Reviewed by EAD | Date

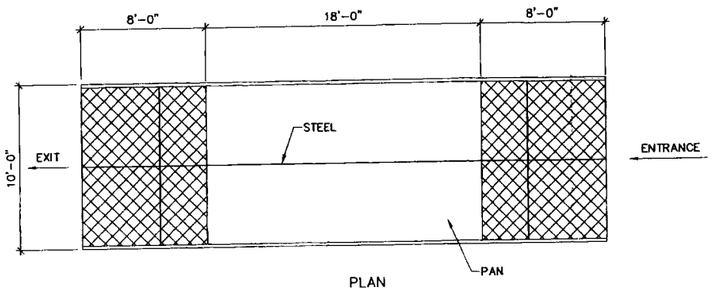
U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

MALCOLM PIRNIE, INC. 44 SOUTH BROADWAY, 13th FLOOR WHITE PLAINS, NEW YORK 10601 (914)761-7500

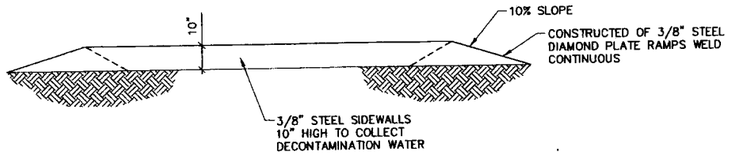
CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

PAVING AND DRAINAGE PLAN

G-12
Sheet 15 of 20



PLAN



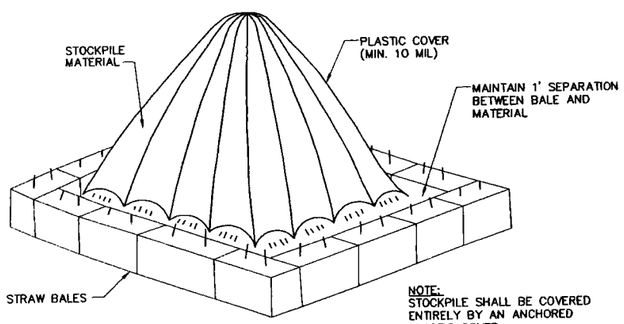
SECTION

NOTE:

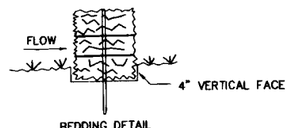
1. COLLECTED WATER SHALL BE REMOVED BY 1/2 h.p. SUMP PUMP AND TRANSPORTED TO STORAGE TANK.
2. PANS SHALL BE MOVED AS NEEDED.
3. 1500psi PRESSURE WASHER.

EXISTING SITE DECONTAMINATION FACILITY PROVIDED BY BUILDING DEMOLITION CONTRACTOR MAY BE AVAILABLE DEPENDING UPON ITS CONDITION.

DECONTAMINATION PAD DETAIL

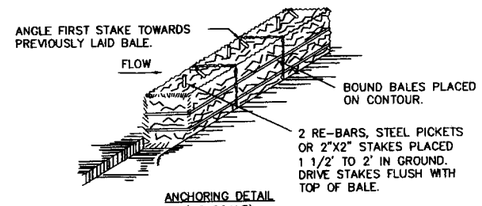


TEMPORARY SOIL STOCKPILE



BEDDING DETAIL
(NO SCALE)

DRAINAGE AREA NO MORE THAN 1/4 ACRE PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%.

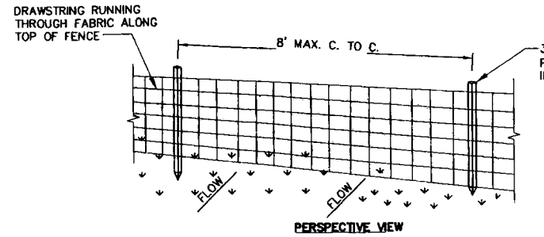


ANCHORING DETAIL
(NO SCALE)

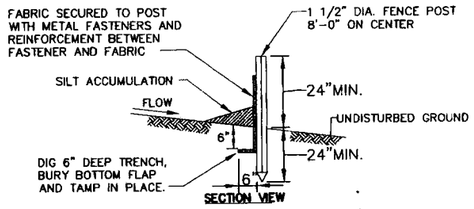
CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE DIKE



PERSPECTIVE VIEW



SECTION VIEW

CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE THE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1 1/2".
2. A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
3. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS ETC.) PLACED BETWEEN THE FASTENER AND THE GEO-TEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

SILT FENCE

(FIGURE 25-2 FROM NEW JERSEY'S STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL AS MODIFIED)

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description	Date	Approved
	Revisions		

JEFFREY T. STOECKLI
PROFESSIONAL ENGINEER
NJ LICENSE 24GE04504400
DATE: NOVEMBER 12, 2010

Designed by: JR Date:
Drawn by: MW Date:
Reviewed by: EAD Date:
Approved by: JRB Date:
File Name: G15-45530014

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY, 13th FLOOR
WHITE PLAINS, NEW YORK 10601
24042771200

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

MISCELLANEOUS DETAILS - 1

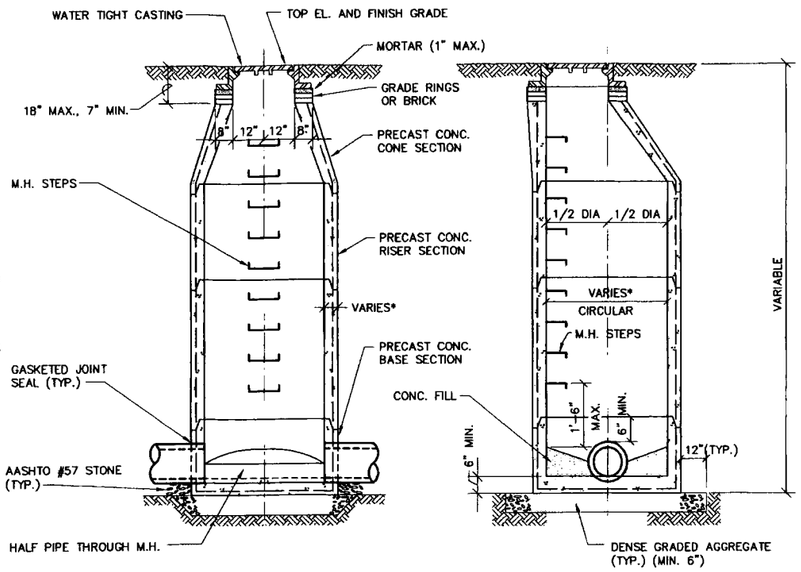
G-13

Sheet 16 of 20

SOIL EROSION AND SEDIMENT CONTROL NOTES

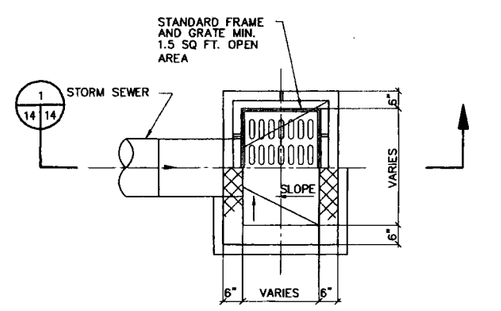
1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
2. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL OF NEW JERSEY.
3. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
5. N.J.S.A. 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR EROSION CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES.
6. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN THIRTY (30) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, SHALL IMMEDIATELY RECEIVE TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO STATE OF NEW JERSEY STANDARDS.
7. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 1 ½ TO 2 TONS PER ACRE, ACCORDING TO STATE OF NEW JERSEY STANDARDS.
8. A SUB-BASE COURSE SHALL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS.
9. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES (I.E. SLOPES GREATER THAN 3:1).
10. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE.
11. ALL SOIL WASHED, DROPPED, SPILLED OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS SHALL BE REMOVED IMMEDIATELY.
12. PERMANENT VEGETATION SHALL BE INSTALLED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
13. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL DOES NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION SHALL BE EMPLOYED.
14. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, AND SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES, THOSE AREAS SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL HAVING PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY-FOUR (24) INCHES OF SOIL HAVING A PH OF 5 OR MORE.
15. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
16. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE APPLIED AS REQUIRED BY STANDARD FOR DEWATERING.
17. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
18. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMITS OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILE AREAS NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY ALSO BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
19. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
20. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

* USE ABOVE NOTES "AS APPLICABLE" TO ACTUAL WORK BEING DONE

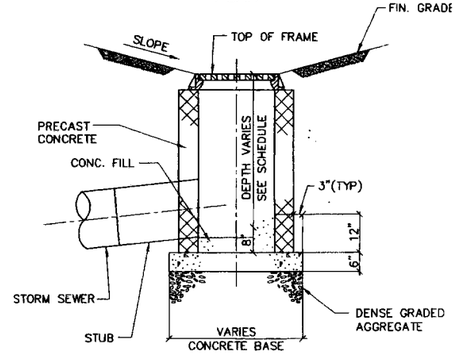


STORM WATER MANHOLE DETAIL

NOT TO SCALE



PLAN



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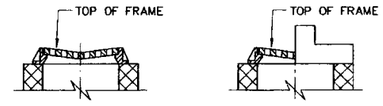


TYPE 2 TYPE 3

SECTION 1 / 14 14

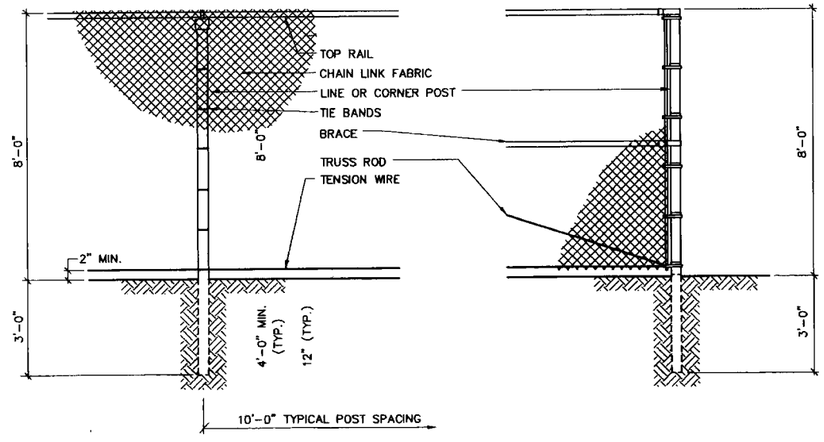
CATCH BASIN DETAIL

NOT TO SCALE

"COIR WATTLE" SPECIFICATION

BioD-Watl 12 COCONUT FIBER:
SHALL BE 12" IN DIAMETER BY 10 FEET LONG AND WEIGHT 4 lbs./ft (min.) FIBER SHALL BE A MATTRESS COIR FIBER WITH 2" x 2" BROWN BRISTLE TWINE NETTING AS MANUF. BY ROLANKA OR AN APPROVED EQUAL.

COCONUT FIBER SHALL BE SECURELY TIED TO DRAINAGE STRUCTURE, AND UTILIZED AS A SLOPE STABILIZATION MEASURE AS APPROPRIATE.

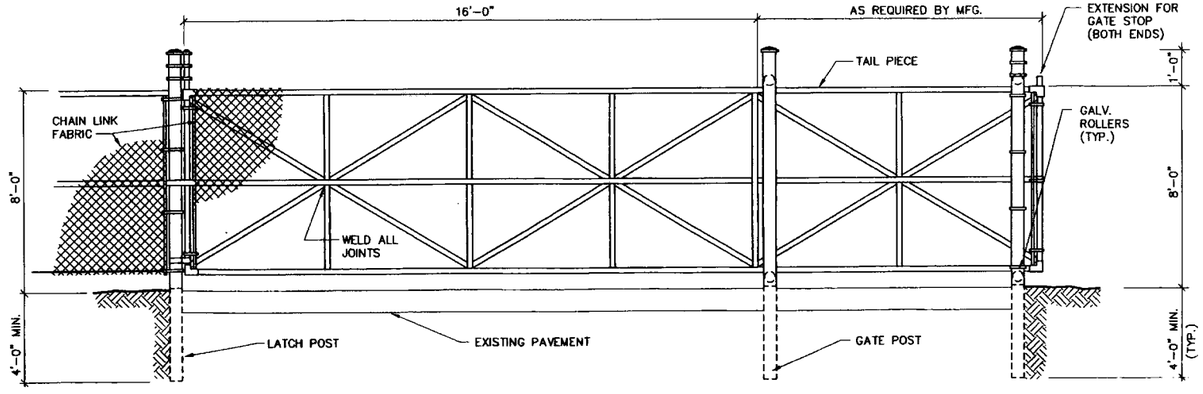


LINE POST DETAIL

NOT TO SCALE

END POST DETAIL

NOT TO SCALE



SLIDING GATE DETAIL

NOT TO SCALE

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description	Date	Approved
	Revisions		

JEFFREY T. STANESCU
PROFESSIONAL ENGINEER
NJ LICENSE 24GE04504400
DATE: NOVEMBER 12, 2010

Designed by JR | Date | Approved by JRB
Drawn by MW | Date | File Name G16-4553G015
Reviewed by: EAD | Date:

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

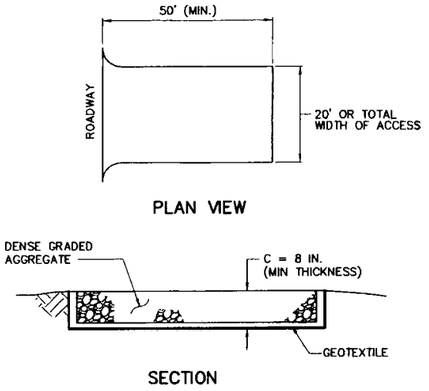
MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY, 15th FLOOR
WHITE PLAINS, NEW YORK 10601
MALCOLM PIRNIE
2402279717300

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

MISCELLANEOUS DETAILS - 2

G-14

Sheet 17 of 20



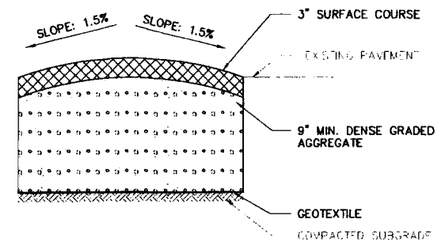
ROCK CONSTRUCTION ENTRANCE/ EXIT DETAIL

1 | 10 | 15

NOT TO SCALE

NOTE:

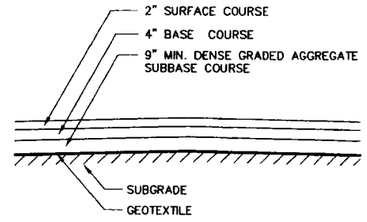
1. ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SOIL SPILLAGE ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.



EXISTING BUILDING DEMOLITION PHASE FOUNDATION RESTORATION DETAIL, TO BE REMOVED

NOT TO SCALE

SHOWN ONLY FOR REFERENCE FOR THIS CONTRACT.

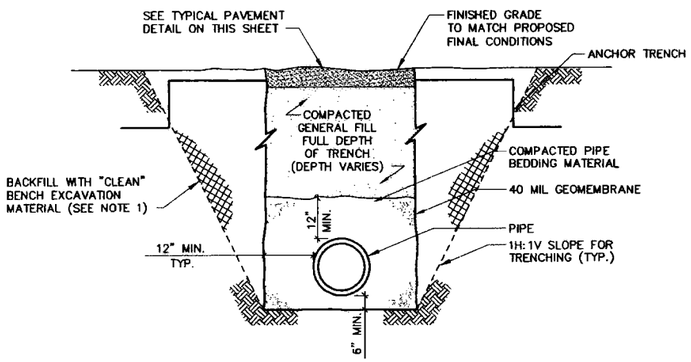


TYPICAL PAVEMENT DETAIL

NOT TO SCALE

NOTE:

1. ALL PAVEMENT MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH NJDOT.
2. PAVEMENT SLOPE VARIES, SEE SHEET G-12.



"CLEAN" UTILITY TRENCH DETAIL

NOT TO SCALE

NOTES:

1. "CLEAN" BENCH EXCAVATION MATERIAL IS DEFINED AS MATERIAL THAT DOES NOT EXCEED ROD CRITERIA BUT NEEDS TO BE REMOVED IN ORDER TO SAFELY EXCAVATE ADJACENT ROD-EXCEEDING MATERIAL.

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Revisions

Symbol	Description	Date	Approved

JEFFREY T. STOKESSY
PROFESSIONAL ENGINEER
NJ LICENSE 24GE04504400
DATE: NOVEMBER 12, 2010

Designed by: JR Date: X
Approved by: JRB Date:
Drawn by: MW Date: X
Reviewed by: EAD Date: X
File Name: 017-455J3D017

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

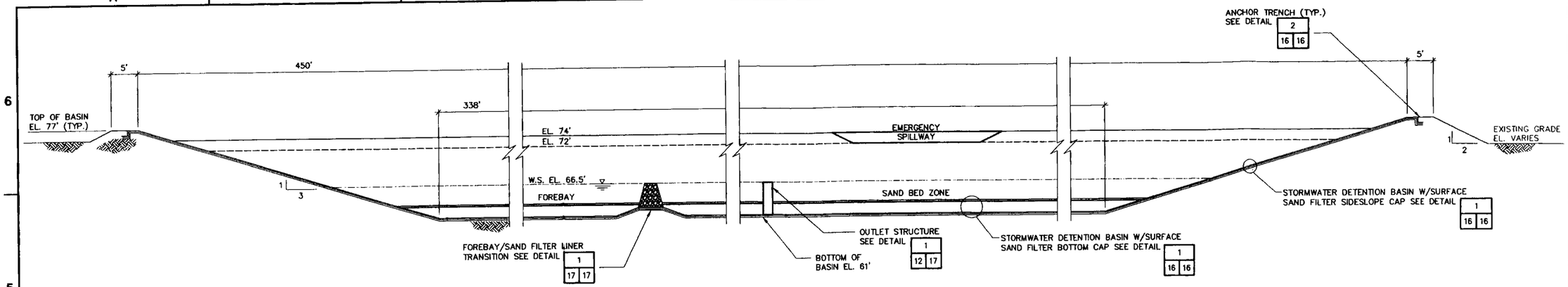
MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY, 14th FLOOR
WHITE PLAINS, NEW YORK 10601
24A027977.200

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

MISCELLANEOUS DETAILS - 3

G-15

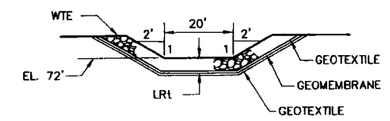
Sheet 18 of 20



STORMWATER DETENTION BASIN W/SURFACE SAND FILTER

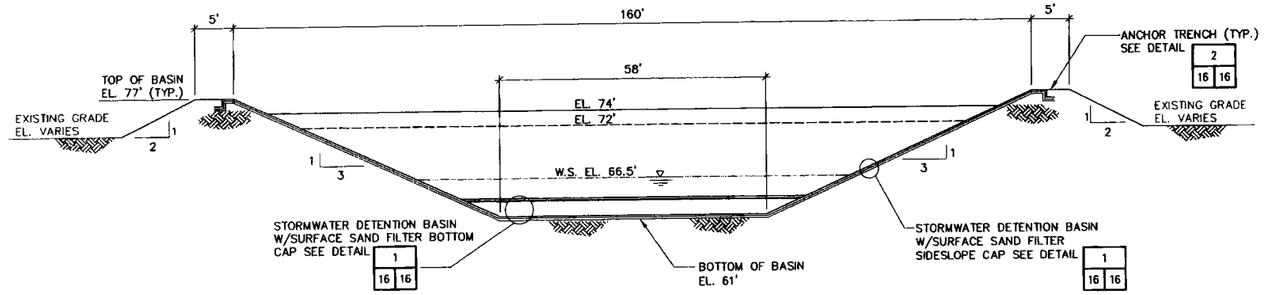
SECTION (1 10 16)

NOT TO SCALE



EMERGENCY SPILLWAY

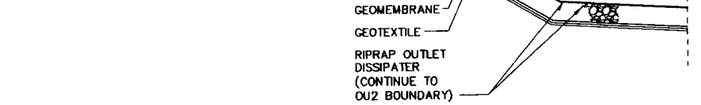
SECTION A–A'



STORMWATER DETENTION BASIN W/SURFACE SAND FILTER

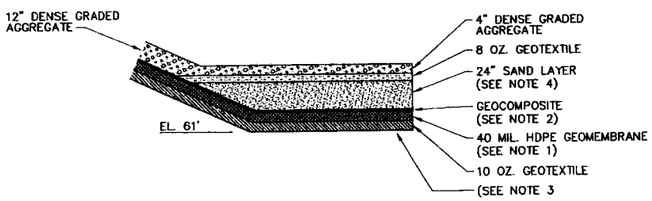
SECTION (2 10 16)

NOT TO SCALE



EMERGENCY SPILLWAY DETAIL (3 12 16)

NOT TO SCALE

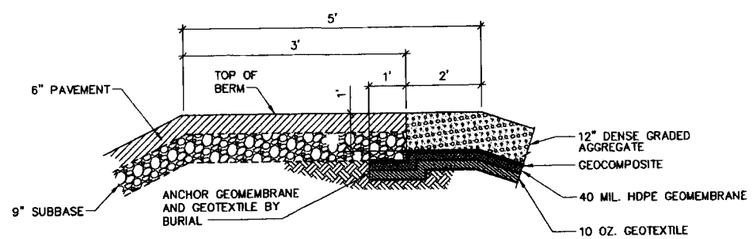


STORMWATER DETENTION BASIN W/SURFACE SAND FILTER
SIDESLOPE AND BOTTOM CAP DETAIL (1 16 16)

NOT TO SCALE

NOTES:

1. SMOOTH GEOMEMBRANE SHALL BE INSTALLED ON BASIN BOTTOM, AND TEXTURED GEOMEMBRANE ON SIDESLOPES.
2. GEOCOMPOSITE SHALL HAVE A MINIMUM TRANSMISSIVITY OF 1×10^{-4} m2/SEC AS MEASURED USING WATER AT 20°C AT A GRADIENT OF 0.1, UNDER CONFINING PRESSURE OF 10,000 PSF, BETWEEN STAINLESS STEEL PLATES, AND SHALL HAVE MINIMUM 6 OZ. NON-WOVEN GEOTEXTILE BONDED TO BOTH SIDES OF THE HDPE GEONET CORE.
3. CONTRACTOR SHALL ADD A SAND LEVELING LAYER IF BEDROCK IS EXCAVATED TO ESTABLISH A SMOOTH SURFACE ON WHICH TO DEPLOY THE GEOSYNTHETICS.
4. SAND LAYER WITHIN THE SAND BED ZONE SHALL MEET THE SPECIFICATIONS FOR CLEAN MEDIUM AGGREGATE CONCRETE SAND IN ACCORDANCE WITH AASHTO M-6 OR ASTM C-33. SAND WITHIN THE FOREBAY ZONES SHALL BE CLEAN SAND FREE OF ORGANIC MATERIAL AS APPROVED BY THE ENGINEER.



ANCHOR TRENCH DETAIL (2 16 16)

NOT TO SCALE

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description	Date	Approved
1	REVISED ENTIRE SHEET	7/30/10	GWD

Revisions

JEFFREY T. STOKESCU
PROFESSIONAL ENGINEER
NJ LICENSE 24GE04504400
DATE: NOVEMBER 12, 2010

Designed by: JR Date:
Drawn by: MW Date:
Reviewed by: EAD Date:
Approved by: JRB Date:
File Name: G15-45530018

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

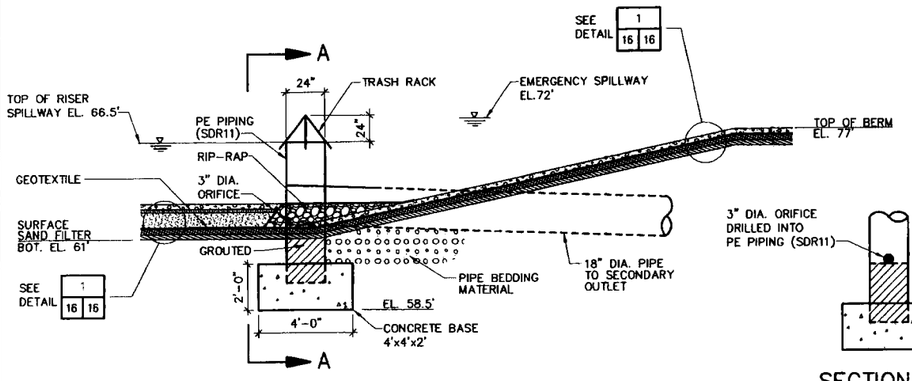
MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY, 15th FLOOR
WHITE PLAINS, NEW YORK 10601
24042791200

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

MISCELLANEOUS DETAILS – 4

G–16

Sheet 19 of 20

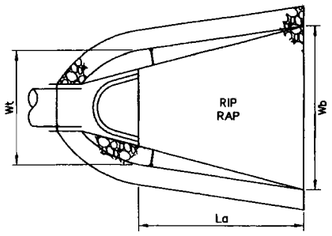


STORMWATER DETENTION BASIN W/SURFACE SAND FILTER OUTLET STRUCTURE DETAIL 1 12 17

NOT TO SCALE

SECTION A–A

NOT TO SCALE



OUTLET NO.	APRON LENGTH La (FT)	APRON TOP WIDTH Wt (FT)	APRON BOTTOM WIDTH Wb (FT)	INVERT ELEVATION (FT)	BACKFLOW PREVENTOR
POND INLET 1	32.2	9.0	41.2	68.5±	NO
POND INLET 2	15.8	4.5	20.3	67.3±	NO
POND INLET 3*	29.3	7.5	36.8	61.3±	YES
POND INLET 4	27.6	7.5	35.1	63.9±	YES
POND INLET 5	24.0	6.0	30.0	67.4±	NO
POND OUTLET**	26.9	4.5	31.4	61.0	YES

** (SEE NOTE 2 & 3)

* SEE DETAIL 6 12 17

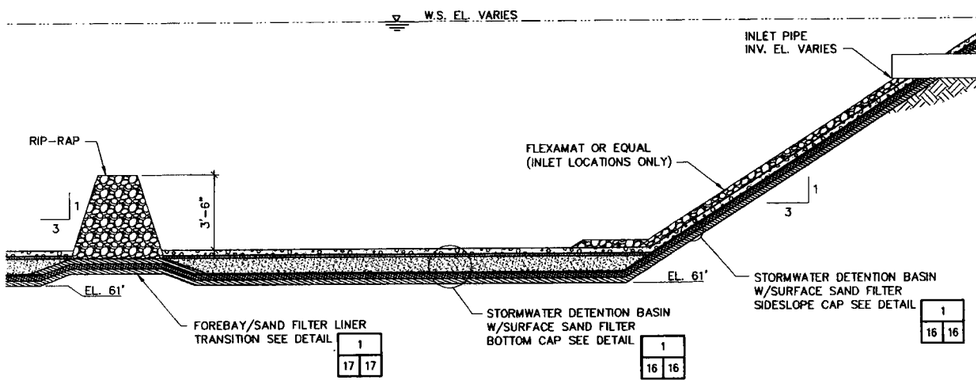
NOTE:

1. SEE SPECIFICATIONS FOR D50 STONE SIZE AND THICKNESS.
2. POND OUTLET APRON SHALL HAVE A 3 FOOT DEEP BY 3 FOOT WIDE RIP-RAP TOE WALL AT THE EDGE OF APRON.
3. POND OUTLET PIPE TO INCLUDE TIDEFLEX CHECK VALVE AS MANUFACTURED BY RED VALVE OR EQUAL.

INLET/ OUTLET DETAIL 3 12 17

NOT TO SCALE

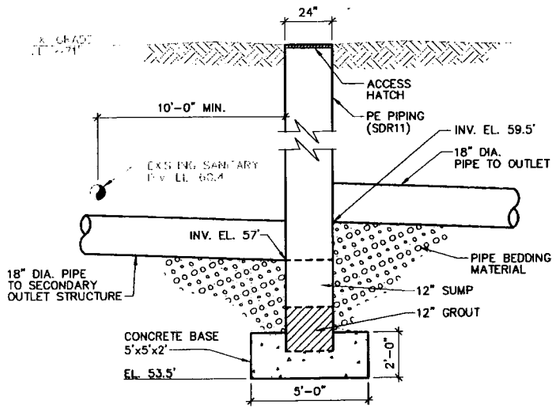
(TAKEN FROM FIGURE 12-1 FROM NEW JERSEY'S STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL)



FOREBAY DETAIL 2 12 17

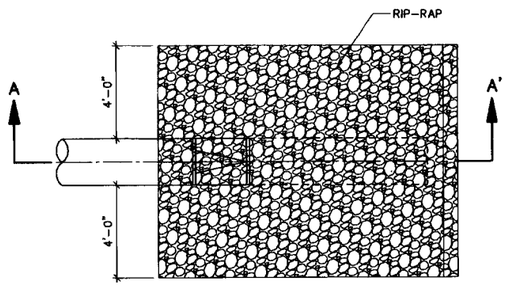
NOT TO SCALE

(REFER TO NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL, APPENDIX: STRUCTURAL GUIDELINES FOR BASIN SLOPES AND OUTLET STRUCTURES.)

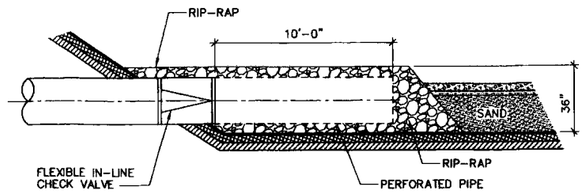


SECONDARY OUTLET STRUCTURE DETAIL 5 12 17

NOT TO SCALE



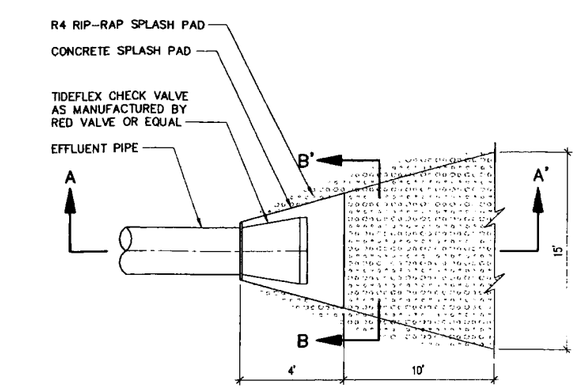
PLAN



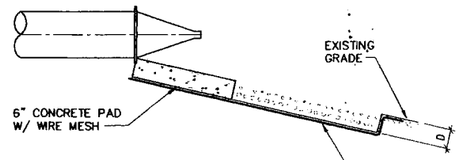
SECTION A–A'

INLET NO. 3 DETAIL 6 12 17

NOT TO SCALE



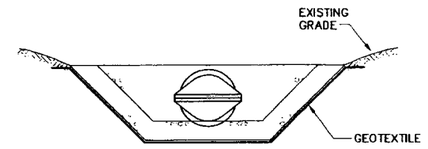
PLAN



SECTION A–A'

NOTE:

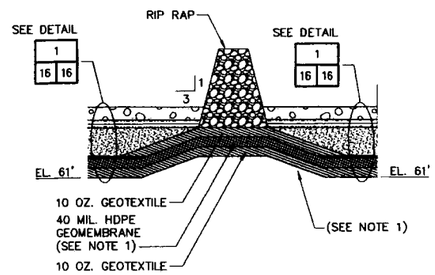
D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6 INCHES.



SECTION B–B'

OUTLET WITH BACKFLOW PREVENTER DETAIL 4 12 17

NOT TO SCALE



FOREBAY/SAND FILTER LINER TRANSITION DETAIL 1 17 17

NOT TO SCALE

NOTES

1. SMOOTH GEOMEMBRANE SHALL BE INSTALLED ON DETENTION BASIN BOTTOM, AND TEXTURED GEOMEMBRANE ON SIDESLOPES.
2. CONTRACTOR SHALL ADD A SAND LEVELING LAYER IF BEDROCK IS EXCAVATED TO ESTABLISH A SMOOTH SURFACE ON WHICH TO DEPLOY THE GEOSYNTHETICS.

U.S. Army Corps of Engineers
KANSAS CITY DISTRICT

Symbol	Description	Date	Approved
1	REVISED ENTIRE SHEET	7/30/10	GWD

Revisions

JEFFREY T. STONECIPHER
PROFESSIONAL ENGINEER
NJ LICENSE: 24GE04504400
11/12/2010
DATE: NOVEMBER 12, 2010

Designed by: JR Date:
Approved by: JRB Date:
Drawn by: MW Date:
Reviewed by: EAD Date:
File name: 015-45530018

U.S. ARMY ENGINEER DIVISION
CORPS OF ENGINEERS
KANSAS CITY DISTRICT
KANSAS CITY, MISSOURI

MALCOLM PIRNIE, INC.
44 SOUTH BROADWAY, 19th FLOOR
WHITE PLAINS, NEW YORK 10601
24027971200

CORNELL-DUBILIER ELECTRONICS
SUPERFUND SITE OU-2 SOILS REMEDIATION
SOUTH PLAINFIELD, NEW JERSEY

MISCELLANEOUS DETAILS – 5

G-17

Sheet 20 of 20

8. NJDEP Natural Heritage Database

Correspondence follows.

JON S. CORZINE
Governor

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
P.O. Box 404
Trenton, NJ 08625-0404
Tel. #609-984-1339
Fax. #609-984-1427

LISA P. JACKSON
Commissioner

June 21, 2007

Laura Morales
Malcolm Pirnie, Inc.
17-17 Route 208 North
Fair Lawn, NJ 07410

Re: Cornell-Dubilier Electronics Superfund Site

Dear Ms. Morales:

Thank you for your data request regarding rare species information for the above referenced project site in South Plainfield Borough, Middlesex County.

Searches of the Natural Heritage Database and the Landscape Project (Version 2) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Request for Data into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

Neither the Natural Heritage Database nor the Landscape Project has records for occurrences of any rare wildlife species on or within 1/4 mile of the referenced site.

We have also checked the Natural Heritage Database for occurrences of rare plant species or ecological communities. The Natural Heritage Database does not have any records for rare plants or ecological communities on or within 1/4 mile of the site.

Attached is a list of rare species and ecological communities that have been documented from Middlesex County. If suitable habitat is present at the project site, these species have potential to be present.

Status and rank codes used in the tables and lists are defined in the attached EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS.

If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive I-Map-NJ website at the following URL, http://www.state.nj.us/dep/gis/depsplash.htm or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292 9400.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Herbert A. Lord

Herbert A. Lord
Data Request Specialist

cc: Robert J. Cartica
NHP File No. 07-4007454

CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the database. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Land Use Regulation Program, P.O. Box 401, Trenton, NJ 08625-0401.

The Landscape Project was developed by the Division of Fish & Wildlife, Endangered and Nongame Species Program in order to map critical habitat for rare animal species. Natural Heritage Database response letters will also list all species (if any) found during a search of the Landscape Project. However, this office cannot answer any inquiries about the Landscape Project. All questions should be directed to the DEP Division of Fish and Wildlife, Endangered and Nongame Species Program, P.O. Box 400, Trenton, NJ 08625-0400.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.

NJ Department of Environmental Protection
Division of Parks and Forestry
Natural Lands Management

EXPLANATIONS OF CODES USED IN NATURAL HERITAGE REPORTS

FEDERAL STATUS CODES

The following U.S. Fish and Wildlife Service categories and their definitions of endangered and threatened plants and animals have been modified from the U.S. Fish and Wildlife Service (F.R. Vol. 50 No. 188; Vol. 61, No. 40; F.R. 50 CFR Part 17). Federal Status codes reported for species follow the most recent listing.

LE	Taxa formally listed as endangered.
LT	Taxa formally listed as threatened.
PE	Taxa already proposed to be formally listed as endangered.
PT	Taxa already proposed to be formally listed as threatened.
C	Taxa for which the Service currently has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.
S/A	Similarity of appearance species.

STATE STATUS CODES

Two animal lists provide state status codes after the Endangered and Nongame Species Conservation Act of 1973 (NSSA 23:2A-13 et. seq.): the list of endangered species (N.J.A.C. 7:25-4.13) and the list defining status of indigenous, nongame wildlife species of New Jersey (N.J.A.C. 7:25-4.17(a)). The status of animal species is determined by the Nongame and Endangered Species Program (ENSP). The state status codes and definitions provided reflect the most recent lists that were revised in the New Jersey Register, Monday, June 3, 1991.

D	Declining species-a species which has exhibited a continued decline in population numbers over the years.
E	Endangered species-an endangered species is one whose prospects for survival within the state are in immediate danger due to one or many factors - a loss of habitat, over exploitation, predation, competition, disease. An endangered species requires immediate assistance or extinction will probably follow.
EX	Extirpated species-a species that formerly occurred in New Jersey, but is not now known to exist within the state.
I	Introduced species-a species not native to New Jersey that could not have established itself here without the assistance of man.
INC	Increasing species-a species whose population has exhibited a significant increase, beyond the normal range of its life cycle, over a long term period.
T	Threatened species-a species that may become endangered if conditions surrounding the species begin to or continue to deteriorate.
P	Peripheral species-a species whose occurrence in New Jersey is at the extreme edge of its present natural range.
S	Stable species-a species whose population is not undergoing any long-term increase/decrease within its natural cycle.
U	Undetermined species-a species about which there is not enough information available to determine the status.

Status for animals separated by a slash(/) indicate a duel status. First status refers to the state breeding population, and the second status refers to the migratory or winter population.

Special Concern applies to animal species that warrant special attention because of some evidence of decline, inherent vulnerability to environmental deterioration, or habitat modification that would result in their becoming a Threatened species. This category would also be applied to species that meet the foregoing criteria and for which there is little understanding of their current population status in the state.

Plant taxa listed as endangered are from New Jersey's official Endangered Plant Species List N.J.S.A. 131B-15.151 et seq.

E Native New Jersey plant species whose survival in the State or nation is in jeopardy.

REGIONAL STATUS CODES FOR PLANTS AND ECOLOGICAL COMMUNITIES

LP Indicates taxa listed by the Pinelands Commission as endangered or threatened within their legal jurisdiction. Not all species currently tracked by the Pinelands Commission are tracked by the Natural Heritage Program. A complete list of endangered and threatened Pineland species is included in the New Jersey Pinelands Comprehensive Management Plan.

HL Indicates taxa or ecological communities protected by the Highlands Water Protection and Planning Act within the jurisdiction of the Highlands Preservation Area.

EXPLANATION OF GLOBAL AND STATE ELEMENT RANKS

The Nature Conservancy developed a ranking system for use in identifying elements (rare species and ecological communities) of natural diversity most endangered with extinction. Each element is ranked according to its global, national, and state (or subnational in other countries) rarity. These ranks are used to prioritize conservation work so that the most endangered elements receive attention first. Definitions for element ranks are after The Nature Conservancy (1982: Chapter 4, 4.1-1 through 4.4.1.3-3).

GLOBAL ELEMENT RANKS

G1 Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout it's range; with the number of occurrences in the range of 21 to 100.

G4 Apparently secure globally; although it may be quite rare in parts of its range, especially at the periphery.

G5 Demonstrably secure globally; although it may be quite rare in parts of its range, especially at the periphery.

GH Of historical occurrence throughout its range i.e., formerly part of the established biota, with the expectation that it may be rediscovered.

GU Possibly in peril range-wide but status uncertain; more information needed.

GX Believed to be extinct throughout range (e.g., passenger pigeon) with virtually no likelihood that it will be rediscovered.

G? Species has not yet been ranked.

GNR Species has not yet been ranked.

STATE ELEMENT RANKS

S1 Critically imperiled in New Jersey because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres). Elements so ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical area of the state. Also included are elements which were formerly more abundant, but because of habitat destruction or some other critical factor of its biology, they have been demonstrably reduced in abundance. In essence, these are elements for which, even with intensive searching, sizable additional occurrences are unlikely to be discovered.

S2 Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.

S3 Rare in state with 21 to 100 occurrences (plant species and ecological communities in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.

S4 Apparently secure in state, with many occurrences.

S5 Demonstrably secure in state and essentially ineradicable under present conditions.

SA Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded; examples include European strays or western birds on the East Coast and vice-versa.

SE Elements that are clearly exotic in New Jersey including those taxa not native to North America (introduced taxa) or taxa deliberately or accidentally introduced into the State from other parts of North America (adventive taxa). Taxa ranked SE are not a conservation priority (viable introduced occurrences of G1 or G2 elements may be exceptions).

SH Elements of historical occurrence in New Jersey. Despite some searching of historical occurrences and/or potential habitat, no extant occurrences are known. Since not all of the historical occurrences have been field surveyed, and unsearched potential habitat remains, historically ranked taxa are considered possibly extant, and remain a conservation priority for continued field work.

SP Element has potential to occur in New Jersey, but no occurrences have been reported.

SR Elements reported from New Jersey, but without persuasive documentation which would provide a basis for either accepting or rejecting the report. In some instances documentation may exist, but as of yet, its source or location has not been determined.

SRF Elements erroneously reported from New Jersey, but this error persists in the literature.

SU Elements believed to be in peril but the degree of rarity uncertain. Also included are rare taxa of uncertain taxonomical standing. More information is needed to resolve rank.

SX Elements that have been determined or are presumed to be extirpated from New Jersey. All historical occurrences have been searched and a reasonable search of potential habitat has been completed. Extirpated taxa are not a current conservation priority.

SXC Elements presumed extirpated from New Jersey, but native populations collected from the wild exist in cultivation.

SZ Not of practical conservation concern in New Jersey, because there are no definable occurrences, although the taxon is native and appears regularly in the state. An SZ rank will generally be used for long distance migrants whose occurrences during their migrations are too irregular (in terms of repeated visitation to the same locations), transitory, and dispersed to be reliably identified, mapped and protected. In other words, the migrant regularly passes through the state, but enduring, mappable element occurrences cannot be defined.

Typically, the SZ rank applies to a non-breeding population (N) in the state - for example, birds on migration. An SZ rank may in a few instances also apply to a breeding population (B), for example certain lepidoptera which regularly die out every year with no significant return migration.

Although the SZ rank typically applies to migrants, it should not be used indiscriminately. Just because a species is on migration does not mean it receives an SZ rank. SZ will only apply when the migrants occur in an irregular, transitory and dispersed manner.

B Refers to the breeding population of the element in the state.

N Refers to the non-breeding population of the element in the state.

T Element ranks containing a "T" indicate that the infraspecific taxon is being ranked differently than the full species. For example *Stachys palustris* var. *homotricha* is ranked "G5T? SH" meaning the full species is globally secure but the global rarity of the var. *homotricha* has not been determined; in New Jersey the variety is ranked historic.

Q Elements containing a "Q" in the global portion of its rank indicates that the taxon is of questionable, or uncertain taxonomical standing, e.g., some authors regard it as a full species, while others treat it at the subspecific level.

.1 Elements documented from a single location.

Note: To express uncertainty, the most likely rank is assigned and a question mark added (e.g., G2?). A range is indicated by combining two ranks (e.g., G1G2, S1S3).

IDENTIFICATION CODES

These codes refer to whether the identification of the species or community has been checked by a reliable individual and is indicative of significant habitat.

Y Identification has been verified and is indicative of significant habitat.

BLANK Identification has not been verified but there is no reason to believe it is not indicative of significant habitat.

? Either it has not been determined if the record is indicative of significant habitat or the identification of the species or community may be confusing or disputed.

MIDDLESEX COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

	NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
*** Vertebrates							
	AMMODRAMUS HENSLOWII	HENSLOW'S SPARROW		E		G4	S1B
	AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW		T/S		G5	S2B
	ASIO OTUS	LONG-EARED OWL		T/T		G5	S2B,S2N
	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1B
	CIRCUS CYANEUS	NORTHERN HARRIER		E/U		G5	S1B,S3N
	CLEMMYS INSCULPTA	WOOD TURTLE		T		G4	S3
	CLEMMYS MUHLENBERGII	BOG TURTLE	LT	E		G3	S2
	DOLICHONYX ORYZIVORUS	BOBOLINK		T/T		G5	S2B
	FALCO PEREGRINUS	PEREGRINE FALCON		E		G4	S1B,S?N
	HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LT	E		G4	S1B,S2N
	HYLA ANDERSONII	PINE BARRENS TREEFROG		T		G4	S3
	IXOBRYCHUS EXILIS	LEAST BITTERN		D/S		G5	S3B
	LANIUS LUDOVICIANUS MIGRANS	MIGRANT LOGGERHEAD SHRIKE		E		G4T3Q	S1B,S1N
	NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON		T/T		G5	S2B
	PANDION HALIAETUS	OSPREY		T/T		G5	S2B
	PASSERCULUS SANDWICHENSIS	SAVANNAH SPARROW		T/T		G5	S2B,S4N
	PODILYMBUS PODICEPS	PIED-BILLED GREBE		E/S		G5	S1B,S3N
*** Ecosystems							
	LEERSIA ORYZOIDES - POLYGONUM (CAESPITOSUM, HYDROPIPER) HERBACEOUS VEGETATION	RICE CUTGRASS - (ORIENTAL LADYSTHUMB, MARSHPEPPER KNOTWEED) COASTAL PLAIN INTERMITTENT POND HERBACEOUS VEGETATION				G4	S2S3
*** Invertebrates							
	AESHNA CLEPSYDRA	MOTTLED DARNER				G4	S2S3
	ALASMIDONTA UNDULATA	TRIANGLE FLOATER		T		G4	S3
	ANAX LONGIPES	COMET DARNER				G5	S2S3

MIDDLESEX COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
BOLORIA SELENE MYRINA	A SILVER-BORDERED FRITILLARY		T		G5T5	S2
CALLOPHRYS IRUS	FROSTED ELFIN		T		G3	S2S3
CALLOPHRYS POLIOS	HOARY ELFIN				G5	S3
CELITHEMIS MARTHA	MARTHA'S PENNANT				G4	S3S4
ENALLAGMA BASIDENS	DOUBLE-STRIPED BLUET				G5	S3
ENALLAGMA PICTUM	SCARLET BLUET				G3	S3
ERYNNIS PERSIUS PERSIUS	A PERSIUS DUSKYWING				G5T2T3	SH
HESPERIA LEONARDUS	LEONARD'S SKIPPER				G4	S2
LASMIGONA SUBVIRIDIS	GREEN FLOATER		E		G3	S1
LESTES EURINUS	AMBER-WINGED SPREADWING				G4	S2
METARRANTHIS PILOSARIA	COASTAL BOG METARRANTHIS				G3G4	S3S4
PAPAIPEMA NECOPINA	SUNFLOWER BORER MOTH				G4?	SH
PONTIA PROTODICE	CHECKERED WHITE		T		G4	S1
SATYRODES EURYDICE	EYED BROWN				G4	S1
SPEYERIA APHRODITE	APHRODITE FRITILLARY				G5	S2S3
SPEYERIA IDALIA	REGAL FRITILLARY				G3	SH
SYMPETRUM AMBIGUUM	BLUE-FACED MEADOWHAWK				G5	S2
** Vascular plants						
AGALINIS AURICULATA	EAR-LEAF FALSE FOXGLOVE				G3	SX
AGASTACHE NEPETOIDES	YELLOW GIANT-HYSSOP				G5	S2
ARTEMISIA CAMPESTRIS SSP CAUDATA	BEACH WORMWOOD				G5T5	S2
ASCLEPIAS RUBRA	RED MILKWEED			LP	G4G5	S2
ASCLEPIAS VERTICILLATA	WHORLED MILKWEED				G5	S2
ASTER RADULA	LOW ROUGH ASTER		E		G5	S1
BIDENS BIDENTOIDES	ESTUARY BURR-MARIGOLD				G3	S2
BIDENS EATONII	EATON'S BEGGAR-TICKS		E		G2	S1.1
CALAMOVILFA BREVIPILIS	PINE BARREN REEDGRASS			LP	G4	S4
CAREX BARRATTII	BARRATT'S SEDGE			LP	G4	S4

MIDDLESEX COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
CAREX LOUISIANICA	LOUISIANA SEDGE		E		G5	S1
CAREX POLYMORPHA	VARIABLE SEDGE		E		G3	S1
CAREX UTRICULATA	BOTTLE-SHAPED SEDGE				G5	S2
CAREX WILLDENOWII VAR WILLDENOWII	WILLDENOW'S SEDGE				G5T5	S2
CRATAEGUS CALPODENDRON	PEAR HAWTHORN		E		G5	S1
CYPERUS LANCASTRIENSIS	LANCASTER FLAT SEDGE		E		G5	S1
DRABA REPTANS	CAROLINA WHITLOW-GRASS		E		G5	SH
ELATINE AMERICANA	AMERICAN WATERWORT				G4	S2
EUPATORIUM ALTISSIMUM	TALL BONESET				G5	S2
GENTIANA SAPONARIA VAR SAPONARIA	SOAPWORT GENTIAN				G5T?	S3
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G3	S3
HOTTONIA INFLATA	FEATHERFOIL		E		G4	S1
HYDROCOTYLE RANUNCULOIDES	FLOATING MARSH-PENNYWORT		E		G5	S1
ISOETES RIPARIA VAR RIPARIA	SHORE QUILLWORT				G5?T5?Q	S3
LATHYRUS OCHROLEUCUS	CREAM VETCHLING		E		G4G5	SH
LIATRIS SCARIOSA VAR NOVAE-ANGLIAE	NORTHERN BLAZING-STAR		E		G5?T3	SH
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	S2
LYGODIUM PALMATUM	CLIMBING FERN			LP	G4	S2
LYSIMACHIA HYBRIDA	LOWLAND LOOSESTRIFE				G5	S3
MELANTHIUM VIRGINICUM	VIRGINIA BUNCHFLOWER		E		G5	S1
MICRANTHEMUM MICRANTHEMOIDES	NUTTALL'S MUDWORT		E		GH	SH
MIMULUS ALATUS	WINGED MONKEY-FLOWER				G5	S3
MYRIOPHYLLUM TENELLUM	SLENDER WATER-MILFOIL		E		G5	S1
MYRIOPHYLLUM VERTICILLATUM	WHORLED WATER-MILFOIL		E		G5	SH
PHORADENDRON LEUCARPUM	AMERICAN MISTLETOE			LP	G5	S2
PLANTAGO MARITIMA VAR JUNCOIDES	SEASIDE PLANTAIN				G5T5	S2

30 AUG 2004

MIDDLESEX COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
PLATANTHERA FLAVA VAR FLAVA	SOUTHERN REIN ORCHID		E		G4T4?Q	S1
PLATANTHERA PERAMOENA	PURPLE FRINGELESS ORCHID		E		G5	S1
POLYGALA POLYGAMA	RACEMED MILKWORT				G5	S2
POLYGONUM GLAUCUM	SEA-BEACH KNOTWEED		E		G3	S1
PUCCINELLIA FASCICULATA	SALTMARSH ALKALI GRASS				G3G5	S2
PYCNANTHEMUM TORREI	TORREY'S MOUNTAIN-MINT		E		G2	S1
RANUNCULUS PUSILLUS VAR PUSILLUS	LOW SPEARWORT				G5T4?	S2
RHODODENDRON CANADENSE	RHODORA		E		G5	S1
RIBES CYNOSBATI	PRICKLY GOOSEBERRY				G5	SH
SAGITTARIA AUSTRALIS	SOUTHERN ARROWHEAD		E		G5	S1
SAGITTARIA CALYCINA VAR SPONGIOSA	TIDAL ARROWHEAD				G5T4	S3
SCIRPUS MARITIMUS	SALTMARSH BULRUSH		E		G5	SH
SCUTELLARIA LEONARDII	SMALL SKULLCAP		E		G4T4	S1
SOLIDAGO ELLIOTTII	ELLIOTT'S GOLDENROD				G5	S3
SOLIDAGO RIGIDA	PRAIRIE GOLDENROD		E		G5T5	S1
STACHYS HYSSOPIFOLIA	HYSSOP HEDGE-NETTLE				G5	S2
TRIGLOCHIN MARITIMA	SEASIDE ARROW-GRASS		E		G5	S1
UTRICULARIA GIBBA	HUMPED BLADDERWORT			LP	G5	S3
UTRICULARIA PURPUREA	PURPLE BLADDERWORT			LP	G5	S3
VERBENA SIMPLEX	NARROW-LEAF VERVAIN		E		G5	S1
VICIA AMERICANA VAR AMERICANA	AMERICAN PURPLE VETCH				G5T5	S2
VIOLA BRITTONIANA VAR BRITTONIANA	BRITTON'S COAST VIOLET				G4G5T4T5	S3
ZIGADENUS LEIMANTHOIDES	DEATH-CAMUS		E		G4Q	S1

7 Records Processed

MALCOLM PIRNIE

17-17 Route 208 North
Fair Lawn, NJ 07410
(201) 797-7400

June 6, 2007

Mr. Herbert Lord, Data Request Specialist
State of New Jersey Department of Environmental Protection
Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
P.O. Box 404
Trenton, New Jersey 08625-0404

Re: Cornell-Dubilier Electronics Superfund Site
South Plainfield, Middlesex County, NJ

Dear Mr. Lord,

On behalf of USEPA, Malcolm Pirnie Inc. is conducting a Habitat Assessment Work Plan to provide regulatory and scientific guidance for undeveloped areas within Operable Unit 2 (OU-2) in accordance the remedial action selected in a recent Record of Decision dated September 2004 for the site. The project area is located in the Plainfield, NJ USGS Topographic quadrangle in South Plainfield, Middlesex County, New Jersey (see attached USGS Topographic Map).

We are requesting a listing of any Federal or State rare, threatened and/or endangered plan and wildlife species identified within or near the proposed project location. This information will be used in the Habitat Assessment. Given that this is a CERCLA Superfund Site, we would not anticipate that a fee will be necessary for processing this request.

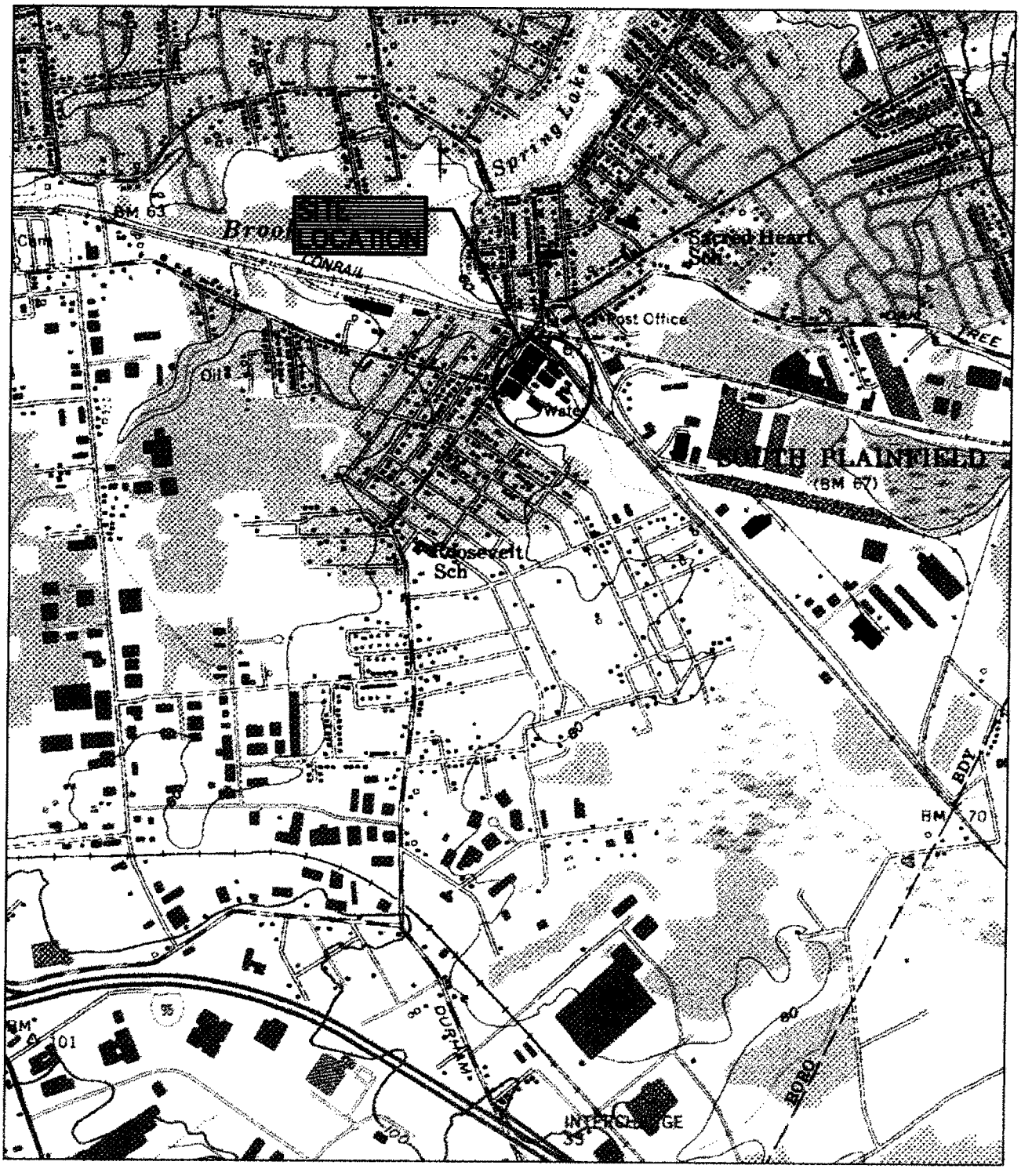
If you have any questions or require additional information, please do not hesitate to contact me at 201-398-4321.

Best regards,

Laura Morales

Laura Morales
Project Scientist
Malcolm Pirnie Inc.

cc: Dennis Corelli, MPI White Plains



SOURCE: U.S.G.S. TOPOGRAPHIC MAP,
7.5 MINUTE SERIES, PLAINFIELD, NEW JERSEY
QUADRANGLE, 1955, PHOTOREVISED 1981

REF:

MALCOLM PIRNIE	U.S. ARMY CORPS OF ENGINEERS CORNELL-DUBILIER SUPERFUND SITE SOUTH PLAINFIELD, NJ CONTRACT No: W912DQ-06-D-006	SITE LOCATION MAP SCALE AS NOTED	MALCOLM PIRNIE, INC. JUNE 2006 FIGURE 1

Natural Heritage Data Request Form

This form is used to request a search of the Natural Heritage Database for records of rare or endangered species and natural communities on or near a project site. The Natural Heritage Program provides the information in order to assist the requestor in preserving habitat for rare and endangered species and natural communities.

To initiate a search, please provide:

A) A letter explaining the project; B) A copy of a USGS quad map(s) delineating the bounds of the project site; C) A completed data request form.

Send completed request to:

Office of Natural Lands Management
Natural Heritage Program
PO Box 404
22 South Clinton Avenue
Trenton, NJ 08625-0404.

NAME Laura Marks

AGENCY Malcolm Pirnie Inc.

ADDRESS 17-17 Route 208 North, Fair Lawn, NJ 07410

PHONE 201-398-4321

PROJECT OR SITE NAME Cornell-Dubilier Electronics Superfund Site

County (check those that apply):

Atlantic ____ Bergen ____ Burlington ____ Camden ____ Cape May ____ Cumberland ____

Essex ____ Gloucester ____ Hudson ____ Hunterdon ____ Mercer ____ Middlesex X Monmouth ____

Morris____ Ocean ____ Passaic ____ Salem____ Somerset ____ Sussex ____ Union ____ Warren____

USGS QUAD(S): Any material supplied by the Office of Natural Lands Management will not be published without crediting the Natural Heritage Database as the source of the material. It is understood that there will be a charge of $20.00 per hour for the services requested. An invoice will be sent with the request response and payment should be made by check or money order payable to "Office of Natural Lands Management."

Date Needed ASAP Signature Tina Hacks

FOR OFFICE USE ONLY

DATE RECEIVED_____

Item Code: REG _____ ST _____ RTC _____ NC _____

REGEO _____ STEO _____ RTCEO _____ NCEO _____

Hrs: _____

Project Code: _____ Inv. #: _____

DPF-225 9/98

US ARMY CORPS
OF ENGINEERS
NEW YORK DISTRICT

Cornell-Dubilier Electronics Superfund Site
333 Hamilton Boulevard
South Plainfield, New Jersey 07080

MAILING ADDRESS:

U.S. Army Corps of Engineers
Environmental Residency
214 State Highway 18
East Brunswick, NJ 08816

DATE: 3/26/08

TO: Ed Lodi

TELEPHONE NUMBER:

ORGANIZATION: Malcolm Pirnie

TELEFAX NUMBER: 914-641-2455

NUMBER OF PAGES (INCLUDING COVER SHEET) 11

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL (908)769-1608.

OUR FAX NUMBER IS: (908)769-1604

COMMENTS:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: SEP 2 7 2006

JECT: Cornell-Dubilier Superfund Site
Results of Informal Consultation Pursuant to Section 7 Endangered Species Act

FROM: Grace Musumeci, Chief
Environmental Review Section

TO: Pietro Mannino, Remedial Project Manager
New Jersey Remediation Branch

On June 16, 2006, we initiated informal consultation with the U.S. Fish and Wildlife Service (FWS), to determine whether there are any federally-listed endangered or threatened species or critical habitats present on or in the vicinity of OU4 of the Cornell-Dubilier Superfund site, located in South Plainfield, Middlesex County, New Jersey.

In its August 10, 2006 response (see attached), the FWS has indicated the proposed project area is located within the migratory range of the federally-listed endangered Indiana bat (*Myotis sodalis*). Indiana bats may be present in the project area during summer months in areas of suitable habitat. To avoid potential adverse effects to Indiana bats, FWS recommends that tree clearing be prohibited within the project area between April 1 and September 30. In addition, if tree clearing activities will be needed outside of this window, FWS has requested that a construction schedule confirming this be forwarded to its office for review.

However, if any tree clearing will be needed during the restricted season, FWS has indicated that further consultation pursuant to Section 7 of the Endangered Species Act will be needed. This consultation will probably include the need for an Indiana bat survey of the project area. If Indiana bats are found during such a survey, a biological assessment will likely be needed as well.

At this time, we are unsure of the timeline for remediation of this OU. Nevertheless, if you do anticipate that tree clearing is a likely component of a future remedy, and do not want to limit such activities to the October 1-March 31 timeframe, then an Indiana bat survey should be performed next summer.

We look forward to working with you as this project progresses to ensure that all environmental concerns are adequately addressed. If you have any questions concerning these comments, please contact Steven Ferreira of my staff at x-3759.

Attachment

cc: M. Clemetson, DESA-HWSB

Steve

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Jersey Field Office
Ecological Services
927 North Main Street
Pleasantville, New Jersey 08232
Phone: (609) 646-9310 FAX: (609) 646-0352
http://fws.gov/northeast/njfieldoffice

In Reply Refer To:

ES-06/210

AUG 10 2006

Grace Musumeci, Chief
U.S. Environmental Protection Agency, Region 2
Environmental Review Section
Strategic Planning and Multi-Media Programs Branch
290 Broadway
New York, New York 10007-1866

Re: Threatened and Endangered Species Review for Operable Unit Four of the Cornell-Dubilier Superfund site, South Plainfield, Middlesex County, New Jersey

Dear Ms. Musumeci:

As requested in your June 16, 2006 letter, the U.S. Fish and Wildlife Service (Service), New Jersey Field Office has reviewed the above-referenced project site for the presence of federally listed endangered and threatened species.

AUTHORITY

This response is pursuant to Section 7 of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of federally listed endangered and threatened species and does not address all Service concerns for fish and wildlife resources. These comments do not preclude separate review and comments by the Service as afforded by the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*), if any permits are required from the U.S. Army Corps of Engineers pursuant to the Clean Water Act of 1977 (33 U.S.C. 1344 *et seq.*), or comments pursuant to the December 22, 1993 Memorandum of Agreement among the U.S. Environmental Protection Agency, New Jersey Department of Environmental Protection (NJDEP), and the Service, if project implementation requires a permit from the NJDEP pursuant to the New Jersey Freshwater Wetlands Protection Act (N.J.S.A. 13:9B *et seq.*), nor do they preclude comments on any forthcoming environmental documents pursuant to the National Environmental Policy Act of 1969 as amended (83 Stat. 852; 42 U.S.C. 4321 *et seq.*).

FEDERALLY LISTED SPECIES

The Service notes that the proposed project site is located within the migratory range of the federally listed (endangered) Indiana bat (*Myotis sodalis*). Indiana bats hibernate in caves and abandoned mine shafts from October through April. Between April and August, Indiana bats inhabit floodplain, riparian, and upland forests, roosting under loose tree bark during the day, and foraging for flying insects in and around the tree canopy at night. During these summer months, numerous females roost together in maternity colonies. Maternity colonies use multiple roosts in both living and dead trees. From late August to mid-November, Indiana bats congregate in the vicinity of their hibernacula, building up fat reserves for hibernation (Harvey, 1992). Protection of Indiana bats during all phases of their annual life cycle is essential to the long term conservation of this species. Threats to the Indiana bat include disturbance or killing of hibernating and maternity colonies; vandalism and improper gating of hibernacula; fragmentation, degradation, and destruction of forested summer habitats; and use of pesticides and other environmental contaminants.

Many areas of New Jersey, including the project site, have not been thoroughly surveyed for endangered and threatened plant and animal species. Therefore, Indiana bats may be present on the project site in areas of suitable habitat during summer months. Tree clearing could adversely affect this species by killing, injuring or disturbing breeding or roosting bats. Therefore, to avoid adverse affects to the Indiana bat, tree clearing activities should be prohibited between April 1 and September 30. If project implementation will involve tree clearing, please forward a construction schedule to this office for review. If tree clearing is proposed during the restricted season, further consultation pursuant to Section 7 of the Endangered Species Act will be required. If no tree clearing will be necessary for project implementation, please provide this office with documentation to that effect.

Except for the Indiana bat and an occasional transient bald eagle (*Haliaeetus leucocephalus*), no other federally listed or proposed threatened or endangered flora or fauna are known to occur in the vicinity of the project site. If additional information on federally listed endangered or threatened species becomes available, this determination may be reconsidered.

OTHER SERVICE COMMENTS

Please refer to our web site at http://www.fws.gov/northeast/njfieldoffice/Endangered/cslist.htm for a current list of federally listed species or candidate species in New Jersey. The above web site also provides contacts for obtaining the most up-to-date information on State-listed plant species in New Jersey from the New Jersey Natural Heritage Program and information on State-listed wildlife species from the New Jersey Endangered and Nongame Species Program. The Service recommends that you consider protection of State-listed species in project planning.

Information contained in this letter and additional information obtained from the aforementioned sources represents the public interest for fish and wildlife resources and should warrant full consideration in project planning.

Please contact Carlo Popolizio of my staff at (609) 646-9310, extension 32, if you have any questions or require further assistance regarding federally listed threatened or endangered species.

Sincerely,

John C. Staples
Assistant Supervisor

REFERENCE

Harvey, M. J. 1992. Bats of the United States. Arkansas Game and Fish Commission, Little Rock, Arkansas. 46 pp.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: OCT 01 1999

SUBJECT: Cornell-Dubilier Superfund Site
Results of Informal Consultation Pursuant to Section 7 Endangered Species Act

FROM: Grace Musumeci, Chief
Environmental Review Section

TO: Carole Petersen, Chief
New Jersey Remediation Branch

On August 18, we initiated informal consultation with the U.S. Fish and Wildlife Service (FWS) to determine whether there are any federal endangered or threatened species or critical habitats present on or in the vicinity of the Cornell-Dubilier Superfund site, located in South Plainfield, Middlesex County, New Jersey.

In their September 15, 1999 response (see attached), the FWS has indicated that with the exception of an occasional transient bald eagle (*Haliaetus leucocephalus*), no other federally listed or proposed threatened or endangered flora or fauna under FWS jurisdiction are known to occur within the vicinity of the project area. Therefore, no further consultation with FWS pursuant to Section 7 of the Endangered Species Act is required, and the Endangered Species Act need no longer be considered an ARAR for this project.

We look forward to working with you as this project progresses, to ensure that all environmental concerns are adequately addressed. If you have any questions concerning these comments, please contact Steven Ferreira of my staff at x-3759.

Attachment

cc: P. Mannino, ERRD-NJRB
C. Stitt, DESA-HWSS

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
927 N. Main Street (Bldg. D1)
Pleasantville, New Jersey 08232
Tel: 609-646-9310
Fax: 609-646-0352

IN REPLY REFER TO:

ES-99/264

September 15, 1999

Grace Musumeci, Chief
Environmental Review Section
Strategic Planning and Multi-Media Programs Branch
United States Environmental Protection Agency
Region 2
290 Broadway
New York, New York 10007-1866
Fax Number: (212) 637-3771

Reference: Threatened and endangered species review in the vicinity of the proposed remedial activities related to the Cornell-Dubilier Superfund site, located in South Plainfield, Middlesex County, New Jersey.

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced proposed project pursuant to Section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of federally listed endangered and threatened species. The following comments do not address all Service concerns for fish and wildlife resources and do not preclude separate review and comment by the Service as afforded by other applicable environmental legislation.

Except for an occasional transient bald eagle (*Haliaeetus leucocephalus*), no other federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur within the vicinity of the proposed project site. Therefore, no further consultation pursuant to Section 7 of the Endangered Species Act is required by the Service. If additional information on federally listed species becomes available, or if project plans change, this determination may be reconsidered.

Enclosed is current information regarding federally listed and candidate species occurring in New Jersey. The Service encourages federal agencies and other planners to consider candidate species in project planning. The addresses of State agencies that may be contacted for current site-specific information regarding federal candidate and State-listed species are also enclosed.

Reviewing Biologist: Andrea K Chenney

Authorizing Supervisor: [signature]

Enclosures: Current summaries of federally listed and candidate species in New Jersey
Addresses for additional information on candidate and State-listed species

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW JERSEY

An **ENDANGERED** species is any species that is in danger of extinction throughout all or a significant portion of its range.

A **THREATENED** species is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

	COMMON NAME	SCIENTIFIC NAME	STATUS
FISHES	Shortnose sturgeon*	*Acipenser brevirostrum*	E
REPTILES	Bog turtle	*Clemmys muhlenbergii*	T
	Atlantic Ridley turtle*	*Lepidochelys kempti*	E
	Green turtle*	*Chelonia mydas*	T
	Hawksbill turtle*	*Eretmochelys imbricata*	E
	Leatherback turtle*	*Dermochelys coriacea*	E
	Loggerhead turtle*	*Caretta caretta*	T
BIRDS	Bald eagle	*Haliaeetus leucocephalus*	T
	Piping plover	*Charadrius melodus*	T
	Roseate tern	*Sterna dougallii dougallii*	E
MAMMALS	Eastern cougar	*Felis concolor couguar*	E+
	Indiana bat	*Myotis sodalis*	E
	Gray wolf	*Canis lupus*	E+
	Delmarva fox squirrel	*Sciurus niger cinereus*	E+
	Blue whale*	*Balaenoptera musculus*	E
	Finback whale*	*Balaenoptera physalus*	E
	Humpback whale*	*Megaptera novaeangliae*	E
	Right whale*	*Balaena glacialis*	E
	Sei whale*	*Balaenoptera borealis*	E
	Sperm whale*	*Physeter macrocephalus*	E

	COMMON NAME	SCIENTIFIC NAME	STATUS
INVERTEBRATES	[redacted]	*Alasmidonta heterodon*	E
	[redacted]	*Cicindela dorsalis dorsalis*	T
	[redacted]	*Neonympha m. mitchellii*	E+
	[redacted]	*Nicrophorus americanus*	E+
PLANTS	[redacted]	*Isotria medeoloides*	T
	[redacted]	*Helonias bullata*	T
	[redacted]	*Platanthera leucophaea*	T+
	[redacted]	*Rhynchospora knieskernii*	T
	[redacted]	*Schwalbea americana*	E
	Sensitive joint-vetch	*Aeschynomene virginica*	T
	Sea-beach amaranth	*Amaranthus pumilus*	T+

STATUS			
E	endangered species	PE	proposed endangered
T	threatened species	PT	proposed threatened
+	presumed extirpated		

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

Note: for a complete listing of Endangered and Threatened Wildlife and Plants, refer to 50 CFR 17.11 and 17.12.

For further information, please contact:

U.S. Fish and Wildlife Service
New Jersey Field Office
927 N. Main Street, Building D
Pleasantville, New Jersey 08232
Phone: (609) 646-9310
Fax: (609) 646-0352

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FEDERAL CANDIDATE SPECIES IN NEW JERSEY

CANDIDATE SPECIES are species that appear to warrant consideration for addition to the federal List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the U.S. Fish and Wildlife Service encourages federal agencies and other planners to give consideration to these species in the environmental planning process.

SPECIES	SCIENTIFIC NAME
Bog asphodel	*Narthecium americanum*

Note: For complete listings of taxa under review as candidate species, refer to Federal Register Vol. 62, No. 182, September 19, 1997 (Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species).

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FEDERAL CANDIDATE AND STATE-LISTED SPECIES

Candidate species are species under consideration by the U.S. Fish and Wildlife Service (Service) for possible inclusion on the List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the Service encourages federal agencies and other planners to consider federal candidate species in project planning.

The New Jersey Natural Heritage Program maintains the most up-to-date information on federal candidate species and State-listed species in New Jersey and may be contacted at the following address:

Mr. Thomas Breden
Natural Heritage Program
Division of Parks and Forestry
CN 404
Trenton, New Jersey 08625
(609) 984-0097

Additionally, information on New Jersey's State-listed wildlife species may be obtained from the following office:

Dr. Larry Niles
Endangered and Nongame Species Program
Division of Fish, Game and Wildlife
CN 400
Trenton, New Jersey 08625
(609) 292-9400

If information from either of the aforementioned sources reveals the presence of any federal candidate species within a project area, the Service should be contacted to ensure that these species are not adversely affected by project activities.

9. References

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